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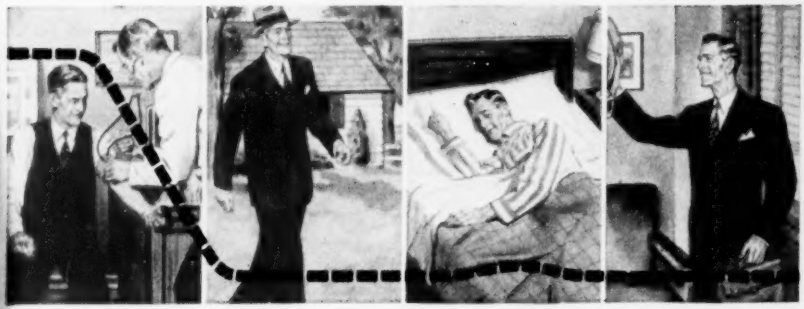

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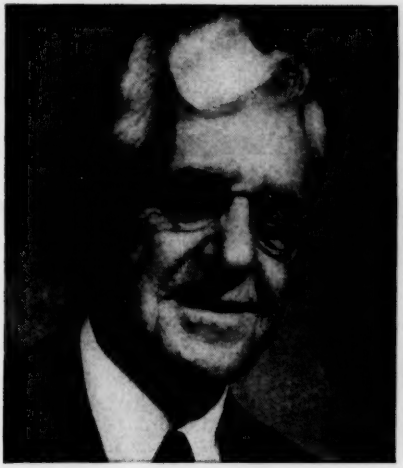

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1. Geriatrics 7:20 (Jan.) 1952.
2. South. M.J. 40:414 (May) 1947.

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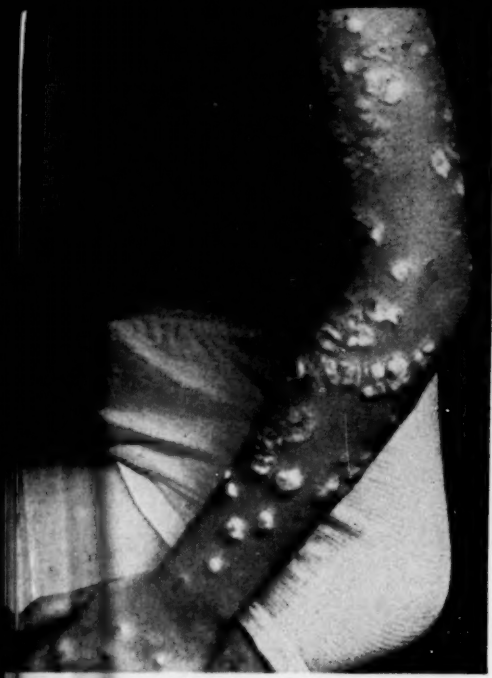

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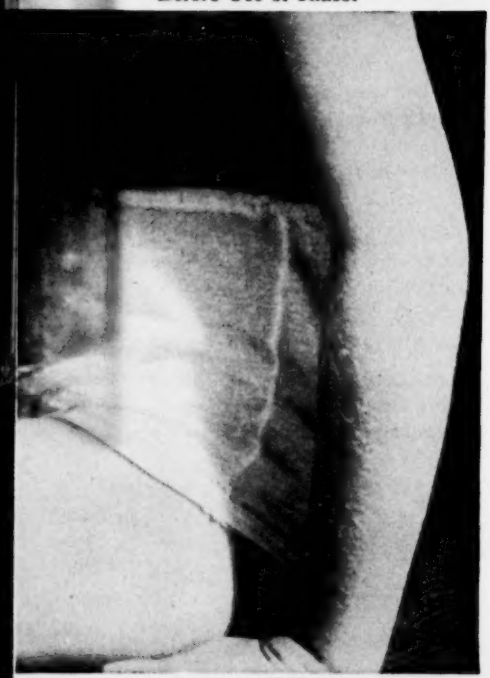

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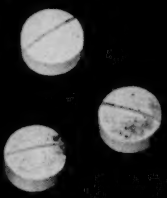

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for

November 1

1952

Modern Medicine

Vol. 20, No. 21

●

THE MAN ON THE COVER is Dr. James Stevens Simmons of Boston, Professor and Dean of the Harvard School of Public Health. Since 1946 Dr. Simmons has served as the Senior Consultant in Preventive Medicine to the Surgeon General and since 1948 has been President of the Association of Schools of Public Health. Recipient of many awards, including the Sternberg Medal in 1940, the Sedgwick Memorial Medal in 1943, and the Walter Reed Medal in 1944, Dr. Simmons is author of books and articles on preventive medicine, experimental bacteriology, and tropical medicine. He has edited the section on Medical Bacteriology in *Biological Abstracts* since 1926 and is a member of the National Editorial Board of *Modern Medicine*. "The Medicine of the Future," a Special Article on page 69, is based on the Charles V. Chapin Oration delivered by Dr. Simmons earlier in the year.

Contents for November 1 1952

CONTINUED

Contents for November 1 1952

CONTINUED

Business Manager: M. E. Herz.
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LETTER FROM THE EDITOR

Dear Reader:

Few copies of *Modern Medicine* find their way abroad. When one does, the response indicates that insularity is not a characteristic of the questing medical mind. Appreciation of readable, succinct reports is universal.

The other morning, for instance, we received letters from Egypt, Israel, and Japan. The Egyptian physician first saw *Modern Medicine* at the U.S. Information Library in Cairo. He returned regularly to peruse subsequent copies. Now he is moving up the Nile and wonders if he can get *Modern Medicine* "just like the doctors in America do." We have arranged that he can.

The doctor from Israel picked up a copy of *Modern Medicine* on a visit to the United States. Intrigued with the "Q & A" department he submitted a poser on treatment of diabetics. He liked the service he got and is going to receive our journal regularly.

The Japanese correspondent, a professor of medicine in Kobe, got several copies of *Modern Medicine* from a friend in this country. An article on hepatitis caught his eye and he asked permission to translate it for *Saishin Igaku,* which, he says, is the *Modern Medicine* of Japan.

"The article," he writes, "has given me much information on this clinical condition which we see more and more here. I have found your publication most valuable in scanning latest advances in Western nations. It has served me as a fine reference. The medical school has a limited budget for journals from abroad, but I hope soon to have *Modern Medicine* on the allowed list. I wish you continued success in your noble undertaking."

Walter C. Alvarez

EDITOR-IN-CHIEF

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Gulielmus Harris Gualtero Alvarez Sal. Quid dixeris de renibus et Thoma Addis ac Homero Smith libenter perlegi. Tu es scriptor doctissimus et optimus.

Cura ut valeas

WILLIAM J. HARRIS, M.D.
Shamokin, Pa.

Fee-Splitting Ado Overdone

TO THE EDITORS: With reference to the article "Fee-Splitting Doctors: Menace to Health," by Arch J. Beatty, M.D. *(Coronet,* September, 1952):

The author of the above article by his own account has been in practice approximately three years. He now rushes into print in a magazine of national circulation in a frantic effort to improve the ethics and the morals of the medical and surgical profession of this country. In his article the author says nothing about fee splitting that has not been said before and said much better.

I, of course, have no immediate means of judging the circles in which this young author moves and practices. I can say for myself, however, that I have been in very active practice since 1926, being in general practice for the first eighteen years and in a practice limited to surgery for the last eight years. At no time while I was in general practice was I approached by any surgeon either to ask me to refer cases to him or to offer me a split for doing so. At no time did any surgeon ever pay me anything for referring a case to him. Since my work has been confined to surgery, I have not at any time been approached by a general practitioner with the proposition that he refer me patients and receive a commission on the cases. On the contrary, many general practitioners have continued to refer surgical cases to

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me with no indication that they desired or expected a split. I might add, too, that my practice has not been limited to a sharply circumscribed area, as I have practiced in Hawaii, Louisiana, and California. All this makes me feel that the matter of fee splitting is probably being tremendously overemphasized.

In any event, if the situation does call for discussion and rectification, such discussion and rectification should certainly be within the profession. It is very difficult for me to see where a discussion in a nationally circulated magazine such as *Coronet* can possibly result in anything but suspicion and in completely unjustified loss of confidence on the part of patients in their general practitioner and their surgeon.

Most medical societies, nowadays, feel that such evidently self-seeking publicity as that sponsored by the author in question is in very poor taste. In the San Francisco County Medical Society, for in-

(Continued on page 24)

"Oh, Mrs. Doan, you forgot your bottle."

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stance, it is the rule that no doctor will talk over the radio or before lay groups without previous clearance with his medical society. I feel that Dr. Beatty's attempt to jump on the bandwagon in this very public way merits severe criticism and reprimand from his professional fellows and the medical organizations of which he may be a member.

THOMAS C. MC VEAGH, M.D.
San Francisco

Enjoyed Overseas

TO THE EDITORS: I am a physician currently completing a tour of overseas duty with the Army. I would like to congratulate you and thank you for your efforts in making *Modern Medicine* the enlightening magazine it is. I enjoy every issue I get a chance to read and feel that it is a very worthwhile publication.

DUANE D. LAHEY, M.D.
Denver

"That you, dear? Surprise! We have company."

Good Scaffolding

TO THE EDITORS: A short report on a study by Dr. Habeeb Bacchus, who, by potassium chloride administration, curtailed joint inflammation in formalin-induced arthritis of the rat (*Modern Medicine*, May 15, 1952, p. 196), deserves meticulous attention by physicians, particularly in light of Dr. Alvarez' editorial in the August 1 issue on Dr. Hans Selye's stress syndrome and diseases of adaptation.

Dr. Bacchus presumably relies on Dr. Selye's hypothesis, for he believes potassium repletion to act in this case by suppressing mineralocorticoids, DCA-like hormones whose elaboration accompanies that of their physiologic antagonists, the glucocorticoids (cortisone-like hormones) during stress.

We agree fully with Dr. Bacchus' explanation of his finding. In view of the editorial, we believe that his valid explanation would have been unacceptable and unintelligible before the advent of Selye's formalization. The latter is not a finished structure but a good scaffolding upon which this and many future generations of physicians can stand while they construct a monumental medical edifice.

No physician who treats infectious, neoplastic, metabolic, or degenerative disease today—meaning no physician at all—can afford to forego the implications of this theory. Regardless of what his patient exhibits, the physician is dealing with an attempt to make a compatible-with-life adjustment or adaptation either to the disease or to the stress which engendered it. This was, of course, recognized by

(Continued on page 30)

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Hippocrates, Avicenna, Cullen, and Weir Mitchell, to mention only a few, but Selye's contribution was to establish the role of the adrenocorticotropic-adrenocortex humoral system as the mediator of adaptive reactions. As the editorial pointed out, this hardly means simplification and there are many valid criticisms. For instance, adaptation schemes in which the central motif is not endocrinologic but immunologic (as in the antigen-antibody reactions of the allergists) or enzymatic (as in the acetylcholine-cholinesterase system) have been presented and explain certain effects as well. Nevertheless, the accomplishments of the Selye theory, in having raised a concept of organic and systemic pathologies to replace obsolete dogmas of cellular and tissue pathologies have been tremendous and generalizations derived even in their present form are eminently useful.

ROBERT D. BARNARD, M.D.
MURRAY H. BOB, M.D.
New York City

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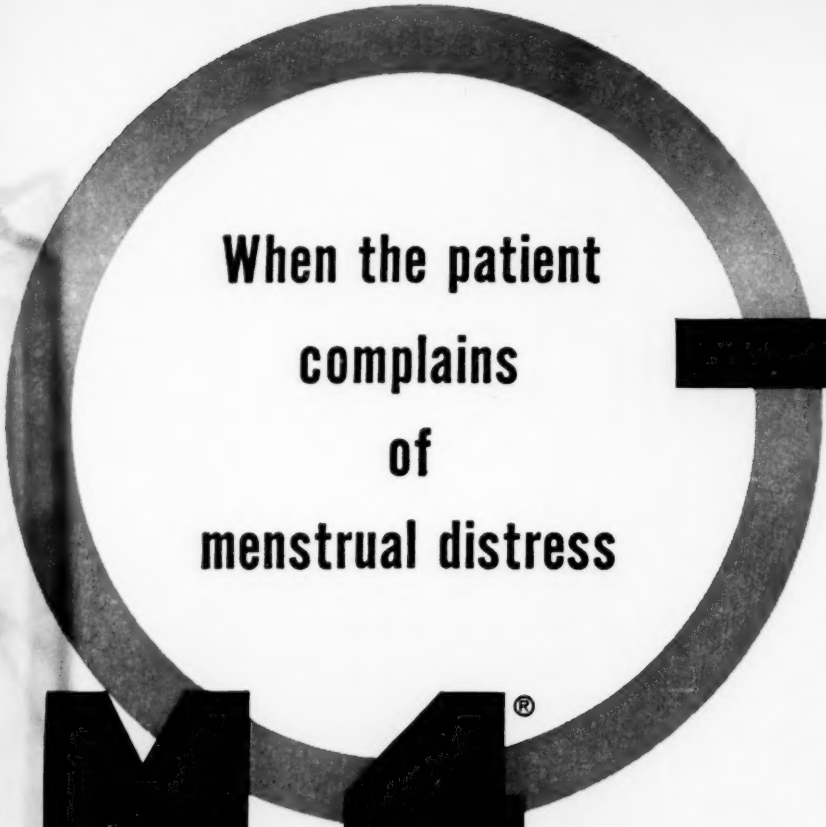

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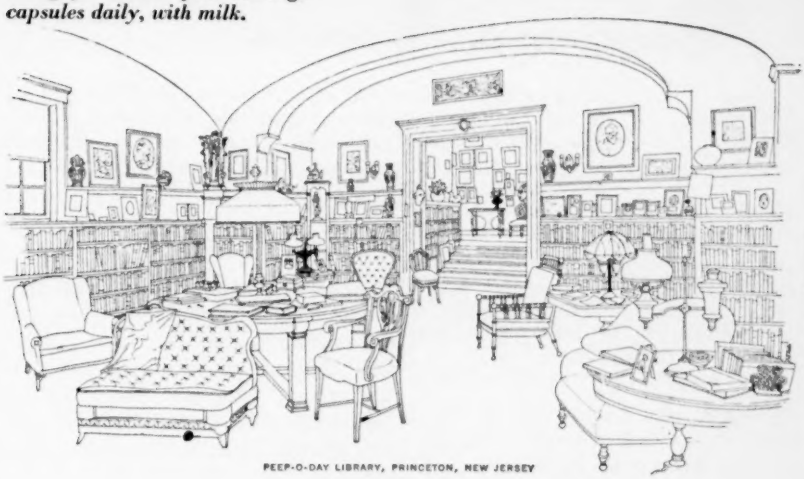

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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: If a pet dog has pinworms, how great are the chances that the infection will be transmitted to other members of the family?

M.D., New York

ANSWER: *By Consultant in Internal Medicine.* I have never heard of a dog as host to pinworm eggs. An intermediate host or suitable soil is not needed for embryonization of pinworm eggs. When deposited, each egg contains a larva that is ready to infect man, its one and only host. The deposition of the egg around the anus produces itching. When the anal region is scratched, the eggs adhere to the fingers from which they are transferred to the mouth, thus completing the cycle.

QUESTION: A 9-year-old boy has a cyst about the size of a walnut behind his right knee which does not hurt or interfere with motion and has grown only slightly since first seen two years ago. Is aspiration indicated and what could be used as an injection to shrink the cyst?

M.D., North Carolina

ANSWER: *By Consultant in Surgery.* Tumors in the popliteal space may be cystic in nature or solid, and differentiation is often difficult.

A Baker cyst is formed by the herniation of the synovial membrane of the knee joint through an opening in the posterior capsule. The opening into the knee joint may be large or so small that its existence is uncertain. Baker cysts should not be injected because of the danger of entering the knee joint.

Cystic tumors can be bursae near the attachments of the semimembranous muscle or the heads of the gastrocnemius muscle. Solid tumors such as lipomas may have the appearance of cysts. An aneurysm of the popliteal artery may have the appearance of a cystic tumor.

Aspiration will help to differentiate the cysts, aneurysms, and solid tumors. Treatment of these tumors should be surgical excision.

QUESTION: What information can you give me on the sterilization of surgeon's gloves?

M.D., North Carolina

ANSWER: Various procedures can be used, but probably the best method is by saturated steam.

Gloves should not be sterilized by boiling as they imbibe water and lose strength, elasticity, and shape. Gloves withstand sterilization by saturated steam but deteriorate in mixtures of air and steam.

For upper respiratory infections —

a more soluble, single sulfonamide with a wider antibacterial spectrum. No need for alkalies — no record of renal blocking...

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From the literature —

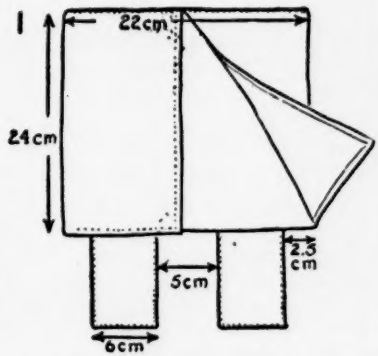
in antibacterial therapy Gantrisin®'Roche' has shown "...no secondary fungus infections, a paucity of allergic reactions, and relative ease in producing plasma concentrations higher than with the other sulfonamides in similar dosage."

Tufts Med. J.,
19:15-19, 1952

Rubber is best sterilized in the upper two-thirds of the steam sterilizer so that residual air cannot contact it. A rack or wire grill can be used to support the gloves. Exposure for fifteen minutes at 121° C. will destroy resistant spores.

Blood and pus must be washed from the gloves before they are removed. This can be done in the hand basin during the operation, if the gloves have been potentially contaminated. Otherwise, the scrub sink is more convenient because a brush can be used to loosen dried blood. The removed gloves should then be rinsed in running water and tested for punctures.

To assure minimal exposure to air during sterilization, gloves are then wrapped in folders made much like letter folds with tongues that can be inserted into the palm of the glove to assure air clearance (see illustration).



The cuffs are rolled back and each of the paired gloves slipped into a pocket of the wrapper. Folds or wrinkles which might trap air must be avoided. A tab is then inserted into the palm of each glove and the folder closed. The folders are placed in a sterilizing wrapper.

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: An unconscious man was found by a roadside and taken by a passerby to a hospital, where a physician prescribed a blood plasma transfusion. Pooled plasma which had been distributed by the state health department for the Red Cross was used. The patient recovered from the cerebral concussion for which he was treated and was discharged from the hospital after eight days. Two months later he became fatally ill of serum jaundice which resulted from the transfusion. Was the State of New York liable to the widow?

COURT'S ANSWER: No.

The New York Supreme Court, Appellate Division, Third Department, upheld the same conclusion (105 N. Y. Supp. 2d 735) previously reached by the New York Court of Claims.

The higher court noted that experience had taught the medical profession that use of dried blood plasma, and especially pooled plasma, involves risk of transmitting virus diseases and particularly serum jaundice, and that safer agents should be used when *immediately* available. It was further proved that there is "good professional opinion" justifying taking that risk when "careful medical judgment" regards it as being outweighed by emergent need.

There were safer agents in the hospital but it appeared that the plasma could be more quickly used.

There was no proof that the doctor was negligent, and the state could not be held liable merely because it distributed the plasma (112 N. Y. Supp. 2d 695).

PROBLEM: A workman with a crushed foot had been treated for four months by the employer's insurer's doctor, who instructed him to return to work. As affecting the workman's right to an award as for total disability, was the employee bound to follow the doctor's instruction, in face of advice given him by his own doctor that he not return to work?

COURT'S ANSWER: No.

The U. S. District Court, Eastern District of Louisiana, noted that under the Louisiana Workmen's Compensation Act an injured employee is not bound to accept treatment by the employer's doctor but is entitled to seek his own medical advice (105 Fed. Supp. 113).

PROBLEM: Did the fact that a doctor had an opportunity to unduly influence a patient into contracting to sell him a farm constitute a good defense to a suit to compel the patient to deed the property?

COURT'S ANSWER: No.

The Michigan Supreme Court, in upholding a decree requiring that the patient convey, noted that

(Continued on page 44)

MRS. ELEANOR ROOSEVELT

World-famous wife and mother; Senior United States Representative of the United Nations General Assembly; author, radio and television commentator; internationally respected and admired for her interest in, and understanding of, all peoples.

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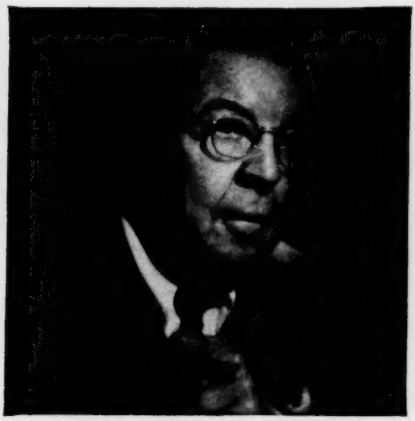
Son of the late Thomas A. Edison; former Assistant Secretary and then Secretary of the Navy; former Governor of New Jersey; guiding force as officer and/or director in many nationally known civic, educational and industrial organizations.



MR. RUPERT HUGHES

Author, playwright, producer, poet, biographer, composer; chief assistant editor of the 25-volume History of the World published by Encyclopaedia Britannica; veteran of two world wars; Hollywood writer, Doctor of Letters, director and commentator.

These three great Americans can afford any type of hearing aid at any price. They wear the seventy-five dollar Zenith hearing aid.

BIOGRAPHICAL DATA BASED ON "WHO'S WHO IN AMERICA."

A NEO-PENIL* CASE HISTORY

(For more information about 'Neo-Penil', see page 152)

Bronchiectasis: Preparation for surgery

Patient: Mr. A.C., age 52, admitted to the hospital November 10. Eleven years' history of bronchitis. In the last 5-6 years he had periodic attacks of severe cough, producing large amounts of purulent, fetid sputum. He had "caught a bad cold" in September and was feeling very poorly, with severe cough, copious expectoration and fever.

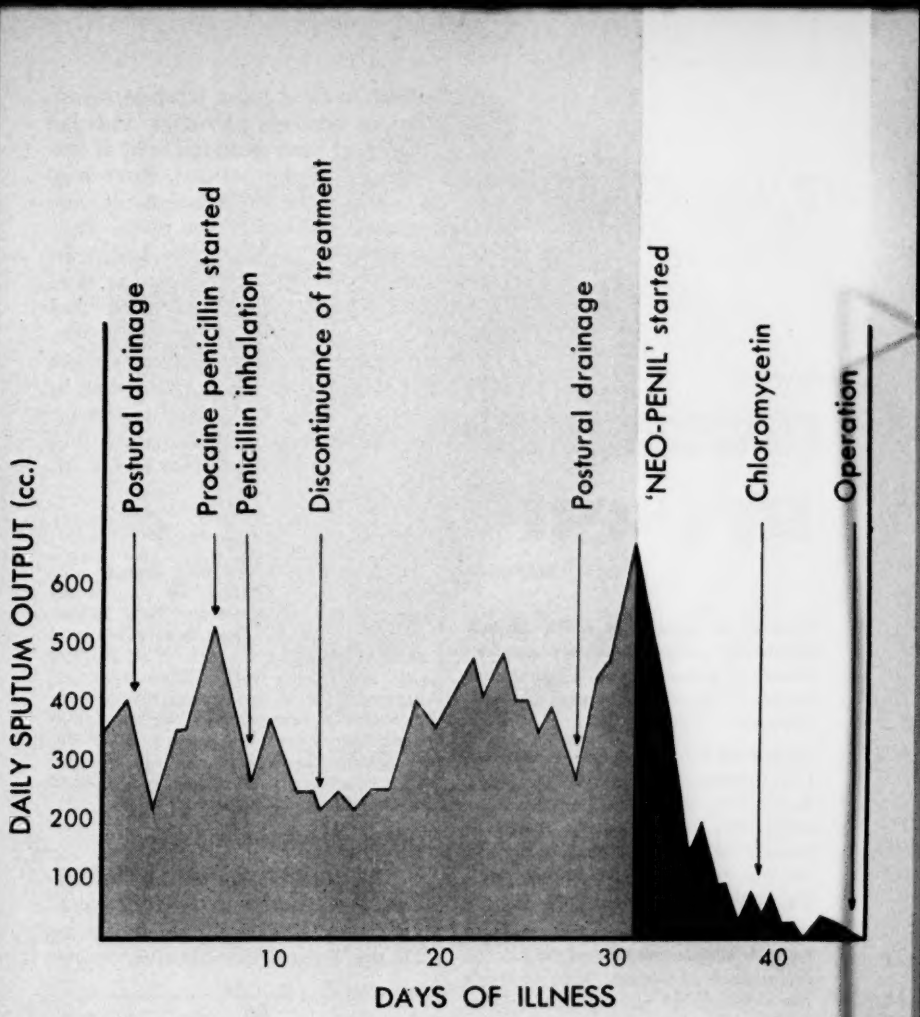
First course of treatment: After sputum cultures were obtained, the patient was treated with procaine penicillin, intramuscularly, 150,000 units daily for 5 days and streptomycin 0.5 Gm. t.i.d. for 4 days. In addition, he was given penicillin inhalations for 6 days. Postural drainage was employed throughout the treatment.

Response: The amount of expectorate decreased but slightly.

On December 4, the patient was transferred to the Department of Thoracic Surgery of a larger hospital, for operation. Bronchoscopic examination revealed marked bronchiectasis in all segments of the left lower lobe. The upper lobe, including the lingula, showed no abnormality. The sputum volume was now 600 cc. per day.

Second course of treatment: In the hope of reducing the sputum volume before operation, the patient was given 'Neo-Penil', intramuscularly, 1 million units the first day, 1 million units b.i.d. the second day, and 1 million units t.i.d. thereafter. Postural drainage was reinstituted.

Response: After 6 days, sputum volume was reduced from 600 cc. to 50 cc. per day. At this time sputum culture revealed penicillin-resistant bacteria and chloromycetin was given, 0.5 Gm. every 6 hours for 5 days. The sputum volume was further reduced, and it was felt safe to operate.



'Neo-Penil' is a new, long-acting derivative of penicillin, which concentrates in the lung and sputum (see page 152). It is available at retail pharmacies in single-dose, silicone-treated vials of 500,000 units.

Smith, Kline & French Laboratories, Philadelphia

★T.M. Reg. U.S. Pat. Off. for penethamate hydriodide, S.K.F. (penicillin G diethylaminoethyl ester hydriodide) Patent Applied For

FULL INFORMATION ACCOMPANIES EACH 'NEO-PENIL' VIAL.

when, in cited cases, business transactions between physician and patient had been declared void at the instance of the patients, there was evidence that unconscionable advantage had been taken by the doctors. As to this case, the Michigan court said that the contract was fair, fixed an adequate price, and was made by a patient who was mentally competent and knew what he was doing. The patient was in no way deceived, and, if it was up to the doctor to demonstrate that the deal was fair, he did so (52 N. W. 2d 358).

PROBLEM: A doctor's license was revoked on a finding by a medical committee, acting for the state licensing board, that he had falsely claimed skill in treating cancer. The finding was based upon information possessed by members of the committee in their capacity as doctors and not upon evidence produced at a hearing of charges against the accused. Was he entitled to a court order directing a rehearing of the case by the board?

COURT'S ANSWER: Yes.

The Illinois Supreme Court decided: A license to practice medicine is a property right protected by the federal Constitution against

"Say! How do we know that was an emergency call?"

prolonged relief
from
nasal congestion
within
2 minutes with
just 2 drops of

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(BRAND OF NAPHAZOLINE HYDROCHLORIDE)

potent, prompt-acting
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which can be administered
to children as well
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violation without due process of law. There is no due process of law in a proceeding to suspend or revoke a license unless the accused is given fair opportunity to be heard before an impartial committee or board and unless a suspension or revocation is supported by proper evidence produced before it, as distinguished from information that the members of the committee or board may possess as individuals. The court said that because of the disgrace, humiliation, and loss of professional standing involved in revocation of a license, "due process of law requires a definite charge, adequate notice, and a full, fair and impartial hearing" (106 N. E. 2d 722).

PROBLEM: A patient had sustained a very severe comminuted fracture of the right os calcis. Five operations and treatment by 9 doctors followed. Infection developed ultimately, necessitating amputation above the ankle. In an effort to reconstruct the foot, an orthopedist performed the third operation, consisting of an arthrodesis between tibia and astragalus, and the breaking and changing of an old arthrodesis. The patient, alleging malpractice, sued for damages. Could the jury hold the doctor liable on a theory that the cause and effect were matters of common knowledge?

COURT'S ANSWER: No.

The California District Court of Appeal, Fourth District, upheld an order of a trial court granting a new trial after verdict in favor of the

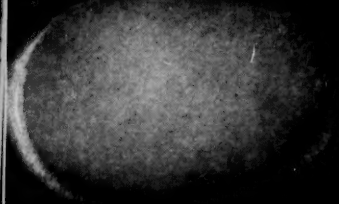
(Continued on page 50)

new convenience in broad-spectrum therapy

Introducing new flexibility in broad-spectrum antibiotic therapy with the most familiar and acceptable form of medication for your patients—well-tolerated, rapidly-effective Crystalline Terramycin Amphoteric Tablets (sugar coated) are prepared from the pure, natural antibiotic substance, assuring availability throughout the pH range of the gastrointestinal tract. Will not contribute to gastric acidity.

Terramycin tablets

Supplied: 250 mg. tablets, bottles of 16 and 100; 100 mg. and 50 mg. tablets, bottles of 25 and 100.



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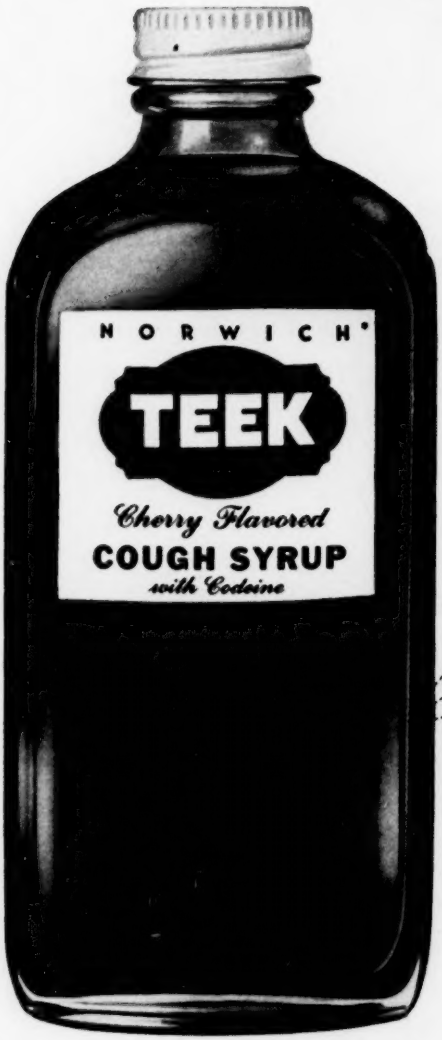
TEEK for coughs



Contains codeine ⅔ grain per oz.; extractives of squill, ipecac and Sanguinaria; chloroform and alcohol.

Exempt narcotic—prescription not required.

provides:

prompt cough relief

effective expectorant action

soothing, palatable vehicle

Delicious Cherry Flavor

EATON LABORATORIES Inc.
NORWICH, NEW YORK

patient, approvingly quoting a remark of the trial judge: "Neither the court nor any lay person connected with this case could say as a matter of common knowledge what caused the infection or what caused the spread" (245 Pac. 2d 3).

PROBLEM: If a medical expert witness, in testifying against the opinion of another, maliciously refers to the latter as a "quack and not a physician," can he, in a suit for slander, assert immunity from liability because the statements were made in court as a witness?

COURT'S ANSWER: No.

This decision rendered by the New York Court of Appeals in 1870 probably reflects what almost any court would decide today in a similar case.

The case arose out of a court hearing as to the mental capacity of a testator whose will was contested. Plaintiff, a homeopath, and defendant, an allopath, seem to have reached different conclusions, and the allopath made the remarks during his testimony.

The Court of Appeals declared that whether the remarks constituted actionable slander depended upon whether they were spoken in the belief that they constituted proper testimony or whether they were uttered maliciously. A jury's finding that defendant was actuated by malice was conclusive (42 N. Y. 161).

For Vaginal Tract Infections

AVC
IMPROVED
(Allantomide VAGINAL CREAM)

In
TRICHOMONIASIS
MONILIASIS
MIXED INFECTIONS

AVC Improved is a time tested formula for the treatment and prophylaxis of vaginal tract infections.

QUICK RELIEF EASILY APPLIED NON IRRITATING

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Kills *Trichomonas*

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Odors
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Because . . .
AVC Improved re-establishes the normal flora and the normal pH.

Because . . .
AVC Improved is indicated in a wide range of infections of the exocervix, vagina and vulva:
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AVC Improved suppresses secondary invaders . . . an important therapeutic goal.

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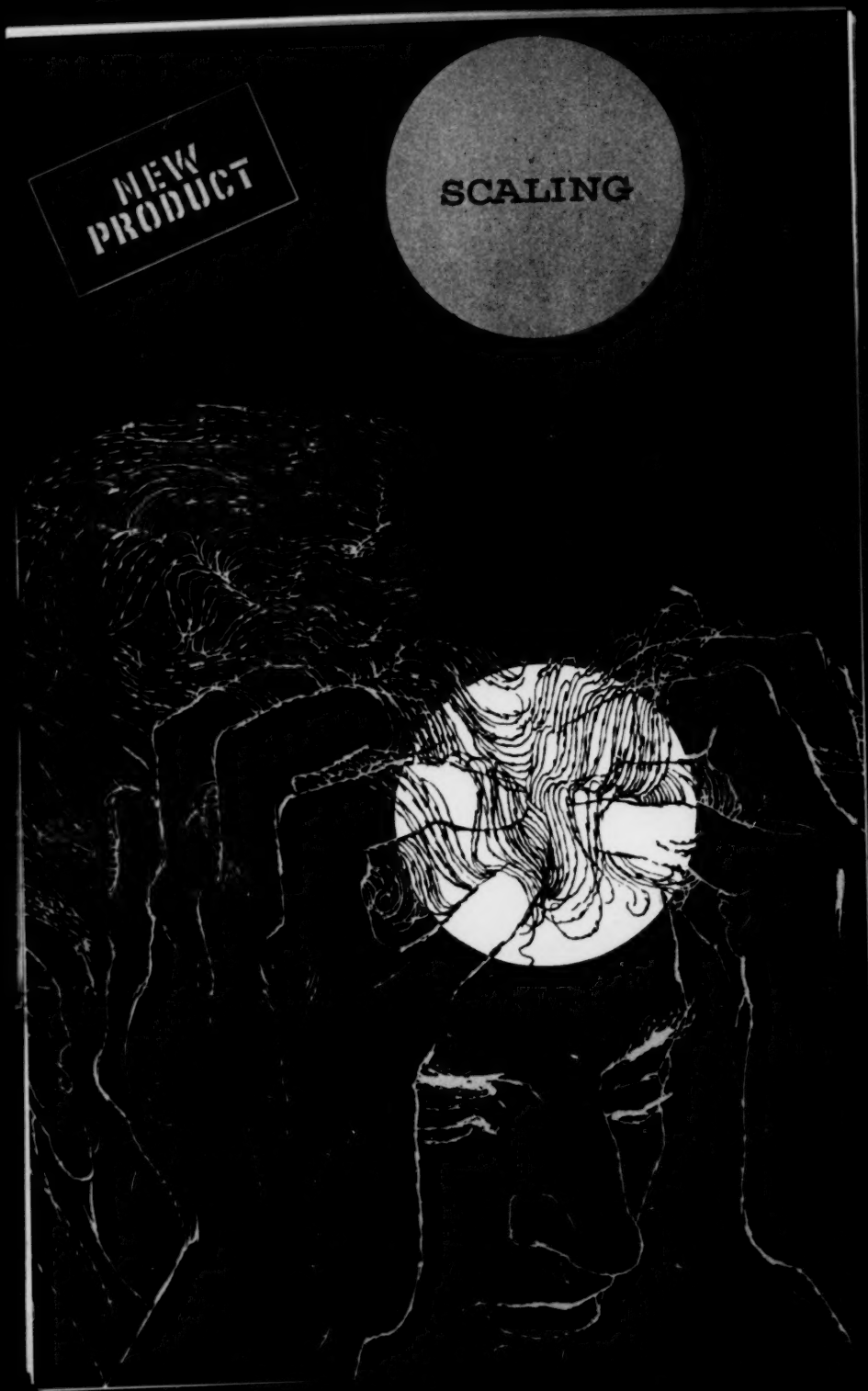
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of Seborrheic Dermatitis of the scalp . . . conveniently

applied while washing hair, then rinsed out

An outstanding new treatment for scalp conditions ranging from mild dandruff to severe seborrheic dermatitis, *Selsun* Sulfide Suspension restores the scalp to a normal, healthy condition (usually within 6 weeks) . . . after which scaling is kept under control with applications at 1 to 4 week intervals. Itching and burning symptoms are relieved after only two or three applications.

In clinical trials with 400 patients[1,2,3] investigators reported *complete control* in 92 to 95 percent of cases of common dandruff, and in 81 to 87 percent of all cases of seborrheic dermatitis. In these studies, *Selsun* often proved effective in cases where other medications had been unsuccessful.

Applied and rinsed out during the patient's hair washing routine, *Selsun* is convenient to use, leaves the scalp clean and odorless. Toxicity studies[1,2] show there are no ill effects from external use as recommended. Supplied by pharmacies in 4-fluidounce bottles, *Selsun* is dispensed only on the prescription of a physician. Abbott

WRITE FOR LITERATURE on this outstanding new product.

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References:

1. Slinger, W. N., and Hubbard, D. M. (1951), Arch. Dermat. & Syph., 64:41, July.
2. Slepyan, A. H. (1952), Ibid., 65:228, February.
3. Ruch, D. M. (1951), Communication to Abbott Laboratories.

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Washington LETTER

Eisenhower and Stevenson on Health Legislation

AT this writing, the national elections have not taken place. But it is late enough in the campaign so that both presidential candidates have said all they probably intend to say on national health legislation. So it is possible to predict, with considerable certainty, what each candidate proposes to attempt in these fields if he should be in the White House in January.

One thing is perfectly clear—regardless of the winner, the legislative problems of the medical profession will be altered only in degree. Whether the White House or the Congress or both are run by Republicans or Democrats, the same pressures will continue.

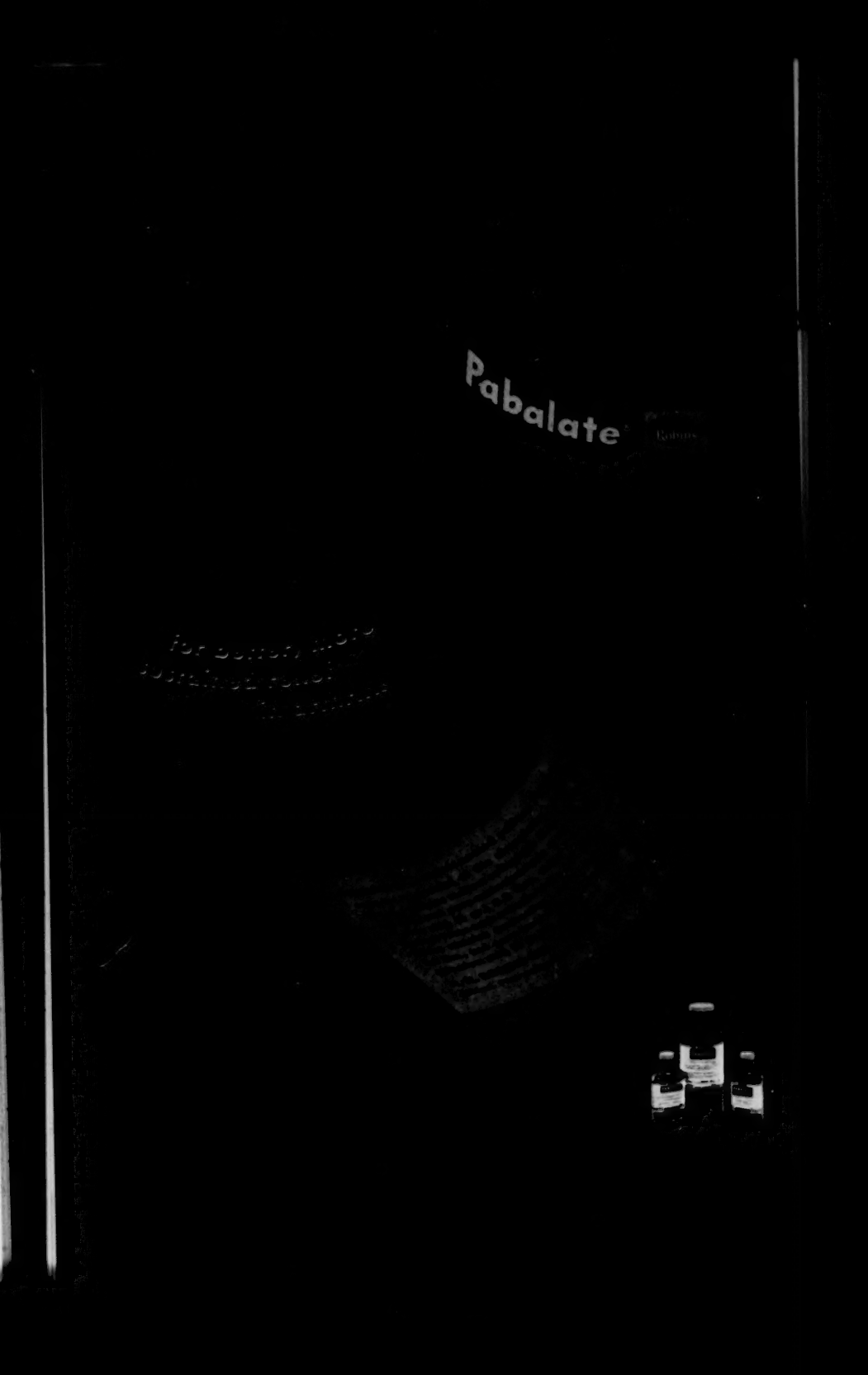
As now, a numerically small segment of the population, represented by an articulate minority in Senate and House, will be constantly demanding compulsory national health insurance, the plan that is generally identified with Mr. Truman and FSA Administrator Ewing.

As now, another small segment of the population, represented by effective and efficient spokesmen in both the chambers, will fight doggedly against any sort of liberalization whatever in medical and other social programs.

And as usual, decision will depend on how the middle-grounders, in and out of Congress, feel about the issues as they come up one by one.

Despite this somewhat static situation, the policies of the new administration will have some influence on legislation, and probably a lot more influence than did the administration of Mr. Truman, which on social matters fought an embittered battle

Pabalate



A cough medication—

"significantly superior"

Carefully controlled tests on 52 institutionalized patients have led to the conclusion[1] that "in all important categories, the glycerol guaiacolate preparation (Robitussin) was *significantly superior*" to the recognized remedies ammonium chloride and terpin hydrate.

Robitussin 'Robins' employs not only glyceryl guaiacolate—shown to have maximum effectiveness for increasing respiratory tract secretions[2] and reducing coughing spells[3]—but also desoxyephedrine hydrochloride, for relieving bronchiolar constriction[4] and improving the patient's mood.[5] An exceptionally palatable syrup, for both adults and children.

REFERENCES: 1. American Practitioner and Digest of Treatment, 2:844, 1951. 2. J. Pharmacol. & Exper. Therapy, 87:24, 1946. 3. Ibid. 73:65, 1941. 4. J. Pharmacol. 77:324, 1943. 5. J. Lab. & Clin. Med., 28:603, 1943.

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Tabulating clinical findings

with a hostile and suspicious Congress.

On the basic issue of national compulsory health insurance, Gen. Eisenhower's stand is many degrees clearer than Gov. Stevenson's. He's against socialized medicine under any name; furthermore, he's against the idea of "socialism," under any name or names.

In this he is supported all the way by the Republican platform, which states: "We are opposed to federal compulsory health insurance with its crushing cost, wasteful inefficiency, bureaucratic dead weight and debased standards of medical care." Neither Eisenhower nor this part of the platform can be easily misunderstood.

Gov. Stevenson, too, has stated his opposition to socialized medicine, but generally he has coupled his views on the subject with a questioning of what is socialized medicine and an insistence that the problems of financing of medical care be solved by **someone.**

There is probably enough evidence that he does not favor the Truman-Ewing plan—but he might be impatient of delays.

The Democratic platform significantly does not even mention national health insurance, which was a key plank in 1948 and one of the issues Mr. Truman hammered at on his whistle-stop campaign of that year.

The closest approach this Demo-

"A wise guy wants to speak to Billy Rubin."

cratic platform makes to the issue is: "We advocate a resolute attack on the heavy financial hazards of serious illness. We recognize that the costs of modern medical care have grown to be prohibitive for many millions of people."

Then the Democratic platform states: "We commend President Truman for establishing the nonpartisan commission on the health needs of the nation to seek an acceptable solution of this urgent problem [cost of medical care]."

In this last point, the Democrats, officially at least, indicate they are willing to face the opposition of the AMA, which consistently has questioned the motives behind appointment of the commission.

On research, the Hill-Burton hospital program, and the promotion of public health there is virtually no choice between the two candidates and the two parties.

Eisenhower, even before his nomination, came out unequivocally in opposition to federal aid to medical schools. He appreciates their financial need, but believes the money must be raised by states and from private sources, and he was instrumental in setting up one large fund-collecting agency for this purpose.

On this point, Stevenson, even if he had reservations, is pinned down by a platform plank which states: "We advocate federal aid for medical education to help overcome the growing shortages of doctors, nurses, and other trained health personnel."

National associations are divided on the question of federal aid, with its threat of government interference in medical school affairs. AMA's official stand is approval of federal grants, where necessary, for construction and equipment, but opposition to federal funds for operating.

The question of establishing a federal program to pay maternity expenses for wives of enlisted men is certain to come up again in the next session of Congress. So far Gen. Eisenhower, to our knowledge, has not been questioned on this particular point nor has Gov. Stevenson. However, as a career military man, Eisenhower may be expected to share the official and long-standing view of the Armed Services: Give us enough money so we can handle dependents in our own hospitals and clinics.

On one of the new issues in medical legislation—operations of the International Labor Organization—there may not be much difference in the Eisenhower and Stevenson views. Both are pledged firmly to cooperation with other nations through the United Nations, and neither could be expected to turn on a particular UN subsidiary—such as ILO—until a preponderance of evidence justified such a decision. The General's often-repeated declarations against any form of socialism might, however, condition him to react sooner against some of the ILO's activities. ILO treaties, on health and social problems, become the law of the land, after ratification by the Senate and passage of enabling legislation. One treaty now signed by delegates, but not yet ratified

Carbonated Beverages Help Maintain Vital Sugar Levels in the Body

That carbohydrates form an essential part of the diet has long been recognized by nutritionists[1], clinicians[2],  **and dentists[3,4]**  **alike.** 

Physiologically, carbohydrate is synonymous with glucose in that only this sugar can be used directly by the body. It is significant, too, that the total sugar storage capacity of the body is relatively small, amounting to only enough to last the average adult about thirteen hours and the supply must be constantly maintained, mostly by dietary means.

But sugar is more than a "food"! It provides the sole source of fuel for the brain and other nerve tissue; it is the most efficient fuel for muscular contraction; it spares body proteins, prevents acidosis and ketosis, detoxifies and increases tissue resistance to infection[5], and through its effective concentration in the blood, it maintains consciousness—a versatile substance indeed. Bottled carbonated soft drinks offer a zestful, palatable and convenient means by which to supply sugar when needed.

The "three-meals-a-day" routine does not always suffice to maintain the highest levels of muscular and mental efficiency. Peak efficiency is reached about an hour after a meal, then falls off steadily to a low point unless sugar is given between meals[6]. **There is no excuse for the "let-down" when carbonated soft drinks are available.** It is considered sound nutrition practice to supply sugar when needed most. Small amounts are necessary to replenish used-up stores and thus maintain efficiency.

On the average, a bottle of flavored carbonated beverage contains one hundred calories or less, in a form rapidly absorbed and transformed into food energy. As a guide to sound nutrition, the Food and Nutrition Board of the National Research Council recommends use of the Seven Basic Foods in amounts which leave ample leeway for you to enjoy your favorite soft drink.

The National Association of the Bottled Soft Drink Industry

1. JOLLIFFE, NORMAN, ET AL: Clinical Nutrition, p.585. N.Y. 1950. Paul B. Hoeber, Inc.
2. BOYD, J.D. *J. Calif. State Dent. A.*, 26:63, 1950.
3. YOUNGER, H.B. *Am. J. Orthodont. & Oral Surg.*, 33:462-468, 1947.
4. PINCUS, P. *J. Calif. State Dent. A.*, 26:62, 1950.
5. SOSKIN, S. and LEVINE, R. Carbohydrate Metabolism, 1946. University of Chicago Press.
6. HAGGARD, H.W. and GREENBERG, L.A. Diet & Industrial Efficiency, 1931. Yale University Press.

AMERICAN BOTTLERS OF CARBONATED BEVERAGES

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Practically all the 3.5 Million Newborns can be started *(and kept)* on Citrus this year

Newborns can safely be given citrus juice (¼ oz. at first) as soon as any food in addition to milk is permitted. Even at three weeks of age, orange juice is virtually non-allergenic. In the rare instances of sensitivity, gentle reaming of the juice—or the use of specially prepared frozen concentrate—to avoid contamination with peel oil, usually obviates any reaction.

With postmortem studies showing evidence of scurvy ten times as frequently as it was observed clinically, more than ever it is apparent that children must be guarded vitamin C-wise to insure adequate growth and development.

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FLORIDA *Citrus*

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by the United States, calls for a form of government-operated or supervised compulsory health insurance.

Obviously there are differences between Eisenhower and Stevenson on medical legislation, differences which can best be recognized by persons who have followed them closely. But it is safe to say that neither would propose any startling changes—not immediately.

Washington Notes

The federal government will continue to keep a guiding arm around the new movements designed to solve some of the problems of the aged. At the conclusion of a meeting of state commissioners on the aging, a motion to set up a national association with no federal ties was voted down.

The Rusk Committee, one of whose assignments is to keep an eye on the military medical departments, believes that in general the medical brass is doing a good job. In a report on its first two years, the committee cited the Armed Services for reducing the doctors-per-troops ratio.

Although the Internal Revenue Bureau has approved tax deduction of split fee payments, doctors are being cautioned that this has nothing to do with the ethical aspect. The AMA and many state societies continue to consider the practice unacceptable.

American Legion's Medical Advisory Committee is doing all it can to convince the Bureau of the Budget that Veterans Administration needs more money. If the Bureau approves, a deficiency appropriation bill will be sent to the new Congress shortly after the first of the year. The last Congress cut VA's funds for medical care 5% below the figure approved by Budget Bureau.

Public Health Service is appealing to VA to include PHS doctors under the Korean GI bill benefits. The bill fails to identify PHS as a military service, thereby eliminating PHS personnel from these benefits. Law establishing PHS service, however, lists it as a military service. Congress may have to settle this issue.

The Magnuson Commission has averaged 220 pages of official testimony for every day of official meeting during the first eight months of its existence. The problem now is to boil down the bulky volumes into something like a single report before the January 1 deadline.

"I tried to watch a jet plane fly past."

"...one should keep in
can have vitamin

Putting on and taking off weight is fundamentally a matter of adding or subtracting calories. However, if the caloric intake is low enough to accomplish weight reduction, nutritional deficiencies may appear, as well as irritability, fatigue, and mental depression so frequently caused by the restricted diet.

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1. Spies, T.D.; Stone, R.E.; Garcia-Lopez, G.; Lopez-Toca, R.; Reboredo, A.: Therapeutic Indications for Vitamins in Mixtures. Postgrad. Med., 10:269 (Oct.) 1951, p. 281.

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The Case of URTICARIA FROM PERFUME

WHEN we consider allergy to cosmetics, we usually think of them as giving rise to various contact dermatoses, allergic rhinitis, or asthma. Too often we overlook the fact that gastro-intestinal symptoms may arise from the small amount of lipstick ingested from the lips, and that even migraine may be set off by certain odors. The following is a report of a baffling case of intractible urticaria — unexplainable until a chance observation led to the resolving clue.

Mrs. B., a housewife, had been suffering for six years from a chronic, recurrent urticaria. During these six years, she had been under the care of competent dermatologists, allergists, internists, and surgeons.

Dermatologic management consisted of injections of histamine or calcium, ingestion of ephedrine, and injections of epinephrine hydrochloride. Roentgen ray therapy, ultraviolet irradiation, and hemotherapy also were used to no avail.

The internists looked for foci of infection, and both a tonsillectomy and hemorrhoidectomy were performed. After all probable etiologic factors had been considered and ruled out, the patient was told that her hives were due to her neurovascular instability, and that she should try to forget her illness.

When Mrs. B. was first seen by a colleague, he noted that she was heavily perfumed. She volunteered the information that her hobby was collecting and using perfume.

Basing the approach to Mrs. B.'s problem on the theory of osmyls, she was advised to remove all traces of perfume from her person and her home, and to avoid groups where women used perfumes heavily. She was told to use only AR-EX Unscented Cosmetics.

The approach was at once both diagnostic and therapeutic. After one week of living in perfume-free atmosphere, Mrs. B.'s hives disappeared. Three weeks later she reported that she felt better than she had in many years. As long as she avoided perfumes she had no recurrences.

Mrs. B. found AR-EX Unscented Cosmetics the perfect answer to her beauty requirements. The shades are smart and fashionable, and their complete freedom from perfumes helps her avoid these sensitizing agents without sacrificing her desire to be well groomed.

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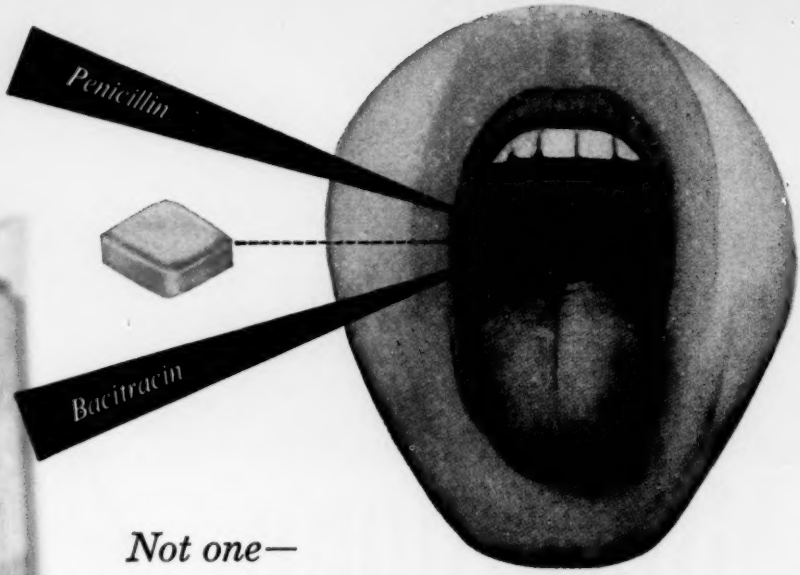

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1. Eagle, H., and Fleischman, R.: Proc. Soc. Exper. Biol. & Med. *68*:415 (June) 1948.

2. Bachman, M.C.: J. Clin. Invest. *28*:864 (Sept.) 1949.

MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

Mitochondria

each an enzyme complex

A Modern Medicine Editorial

For many years physicians have wondered what mitochondria, those tiny bodies in the protoplasm of cells, are for. Some men have tried to make out that they are parasitic in nature, but recently D. E. Green of the Institute for Enzyme Research in the University of Wisconsin said that the mitochondria contain a huge complex of enzymes and co-enzymes, probably several hundred in number: enzymes which can be treated as if they were integrated entities.

These enzymes have to do with such things as the complete oxidation of fatty acids and of some amino acids. They deal also with oxidative phosphorylation and the synthesis of hippuric acid and citrulline.

When mitochondria are prepared and purified under proper conditions, they contain the full complement of enzymes and co-enzymes necessary for bringing about each of the above mentioned complicated series of reactions.

Some of the oxidases can be extracted from cells by repeated freezing and thawing. One of the oxidases so far purified has a molecular weight of abut 4 million. Evidently it is an extremely complicated chemical.

As Green says, much remains to be done in order to understand these enzyme actions which have so much to do with oxidation in the cells, but the "experimental door is slightly ajar and appears to be not too resistant to being opened further."

WALTER C. ALVAREZ

All Acid-fast Bacilli Not M. Tuberculosis

In a recent editorial in *Diseases of the Chest,* the editor, Dr. J. A. Myers, pointed out some important points which most physicians tend to forget. As Myers says, practically all of us assume that an acid-fast bacterium found in sputum is a tubercle bacillus. This is not invariably true. As Capt. Steinberg and his associates have pointed out, many acid-fast bacilli are saprophytes which are widely distributed in water and many other media. The soil under our feet is full of them.

Certainly quite a few patients who are sent to sanatoriums with a diagnosis of tuberculosis do not appear to have the disease. Today in many big laboratories material suspected of containing tubercle bacilli is always planted on culture media and perhaps even inoculated into guinea pigs. But sometimes even the answer to the guinea pig test is wrong because the animal becomes infected in some other way.

What this means is not that we must assume that most reports of tubercle bacilli in sputum or in gastric contents are wrong; it means that not all of them are right, and no internist worth his salt will ever swallow every laboratory report whole or will assume that it is gospel truth.

One of the curses of medicine today is the worshipful attitude taken toward the reports given by a laboratory girl, perhaps poorly trained and poorly supervised. We all know that we can make mistakes, but it seldom occurs to us that the laboratory girl can do it too. Yet men of an inquiring turn of mind have sent parts of the same sample of blood from one person to five laboratories for chemical studies and have received five different reports.

The point is that laboratory reports that do not fit well with other findings must be scrutinized and usually repeated.

—W.C.A.

Special Article

The Medicine of the Future

JAMES STEVENS SIMMONS, M.D.†
Harvard School of Public Health, Boston

*Prepared for Modern Medicine**

THE medical profession of this country has a proud record of accomplishment. Within a short time it has become highly proficient in the treatment of the sick. Its members have given the major leadership in the development of the specialties of preventive medicine and public health and are now ready to make their greatest contribution to the nation through the prevention of disease.

A few years ago one of the world's renowned medical practitioners, Sir William Osler, made the statement: "Preventive medicine is the medicine of the future." Modern advances point the way to eventual fulfillment of Osler's dream.

Application of preventive knowledge is not a job that can be delegated to the professional health worker alone. Disease prevention is a vital service to the nation, and responsibility for rendering such service must be shared by the professions both of medicine and of public health. The general practitioner of medicine can increase his contribution to community health by following the example of the up-to-date specialist in pediatrics, who is concerned not only with the treatment of his patients but with keeping them well. All the hospitals of the country can help enormously in disease prevention by following the lead of the relatively small group of hospital administrators who are now practicing good preventive medicine. Such hospitals really serve as health centers for the community. Members of their staffs are concerned not only with the recovery of their patients, but with the maintenance of good health among the families and communities which they serve.

The American physician also has a direct obligation to see that the agencies which are organized to operate our community, state, and federal health programs are properly staffed, guided, and supported by the medical profession. This public service is taken for granted by

*Adapted from the Charles V. Chapin Oration delivered before the Rhode Island Medical Society, Providence, May 8, 1952. Rhode Island M. J. 35:361-367, 370, 404, 1952.
†Brigadier General, U. S. Army (Retired); Dean, Harvard School of Public Health.

physicians of vision in many communities. It should become a part of the daily life of every member of the profession.

Rapid advances in civilian health have been made in the last two decades. Preventive measures in obstetrics and pediatrics have enormously decreased maternal and infant mortality. The infectious diseases of childhood are still abundant but they no longer cause the high death rates of the recent past. Since 1900 there has been a reduction of about 97% in the combined death rate for measles, scarlet fever, whooping cough, and meningitis. The morbidity and mortality rates for respiratory, intestinal, venereal, and insect-borne infections have decreased.

Within the last few years, for example, malaria has been almost wiped out of the southern states by intensive use of DDT and other insecticides and by the continuation of the enormous mosquito-control program initiated during the war by the Army and operated with the help of the U. S. Public Health Service.

However, there are still unsolved problems in both curative and preventive medicine. Current official reports show that large numbers of our citizens are disabled or killed each year by diseases and accidents, many of which are preventable. Last year more than 2 million infectious diseases were reported by practicing physicians, and a large proportion of these were caused by childhood diseases. The preventable intestinal, venereal, and insect-borne diseases still produce large numbers of infections yearly, millions of Americans are killed and injured annually by accidents, and the country labors under an enormous burden of mental diseases, cancer, and the chronic diseases of old age.

In addition to all of this, we now must recognize the constant threat of Communist attack. Americans must be prepared for the new health hazards which accompany modern warfare. The civil populations must be ready for unusual diseases and accidents which might result from military sabotage or bombing or might be spread by means of atomic, biologic, or psychologic warfare.

In the face of present accident and disease rates and the tremendous crippling power of any future war, it would be well for the medical profession to examine with a critical eye the manner in which it is meeting its obligations to the American people. If the country is to be prepared, the professions of medicine and public health must work together. They must provide the united leadership required to develop a strong national health program designed to give the best possible medical and surgical care and to provide a fully effective program of preventive medicine, both for the Armed Services and for all our civilian communities. This is in keeping with the traditional objective of the medical profession—to conserve human life and health.

There are two important approaches to the fulfillment of this objective: The first is through the

treatment and care of the sick and injured, and in this service America's physicians have excelled. The second approach is through the prevention of disease and accidents, and in this there is much room for improvement. Both services are essential to the conservation of American health and manpower, and both are a primary responsibility of the profession of medicine.

If we are to visualize these basic responsibilities clearly, we must penetrate the fog of confused thinking which now delays the development of adequate health protection in the United States, and I suggest that we return to the simple truth that an ounce of prevention is really worth a pound of cure.

No utopian law aimed at providing a federal dole in the form of government insurance to pay for medical care can ever protect the American citizen against sickness. If all our money were spent on the construction of luxurious hospitals staffed with the best clinicians in the world, such an expenditure alone would not prevent a single disease. Certainly, Americans deserve first-class medical care, and it is believed that they are receiving it. Certainly, insurance to help pay for the high cost of illness is important, and, with the development of more satisfactory forms of voluntary medical care insurance, it is hoped that this need will eventually be met.

A more important matter is the question as to what the medical profession is doing to keep Americans well and on the job. What is the general practitioner doing to prevent disease and keep people out of hospitals? This question has the potentialities of an atom bomb. It poses today's challenge to the profession of medicine.

The challenge of preventive medicine cannot be brushed aside. The practical value of disease prevention has been proven at the grass roots, on the battlefields of two world wars, in the hills of Korea, and in the daily activities of thousands of American towns. Prevention is desirable from a humanitarian viewpoint. It is essential to the conservation of America's working and fighting manpower. Finally, it affords a common-sense approach to the more economic solution of the present serious problem of expensive medical care.

As we face the future, the first job is of course to reduce—and, if possible, to eliminate—the remaining load of preventable diseases and accidents. The second job is much more difficult; it calls for more research aimed at the development of better methods with which to prevent the still unconquered infections of childhood, the increasing load of old age diseases and disabilities, and the almost overwhelming burden of mental diseases. These unsolved problems should be attacked just as the pioneer microbiologists three generations ago tackled the even greater mystery of the epidemic infections. Intensive research is required to ferret out their causative factors and to discover new methods of control. Also, an alert well-trained body of professional workers will

be needed to apply this new knowledge effectively.

Our wartime experiences have convinced the American people of the importance of both public health and research. Large amounts of money are now being expended on the investigation of all sorts of health problems. Well-known examples are the extensive researches on infantile paralysis, accidents, arthritis, heart disease, cancer, the disabilities of old age, rehabilitation, and mental diseases.

We are still unable to prevent many of the diseases of childhood, and because their mortality has been so greatly reduced, interest in continuing the search for methods of prevention has lagged. In fact, according to Hubbard (1950), a group of health officers and practicing physicians of New Haven, Conn., have recently pointed up this attitude of defeat with the following conclusions:

> It has been determined that these diseases, rubeola, rubella, epidemic parotitis and varicella should be allowed to occur in childhood, rather than attempt prevention with the alternative of having them contracted in adolescence or adulthood. These diseases have no preventives, and adolescents and adults are being attacked in greater numbers and with greater severity. There is an increasing number of cases being reported where contraction of rubella by pregnant women has resulted in malformation of the fetus or even miscarriage. Also, epidemic parotitis in teen-age boys and in men may result in orchitis. Therefore, many health authorities do not deem it advisable at the present time to exclude contacts of these diseases from school, although isolation of cases is still enforced, primarily for the protection of the patient.

Based on the knowledge at hand, these recommendations might appear to be warranted. However, coming on the heels of the discoveries of the last three generations, such conclusions appear to sidestep our obligation to continue the search for the full truth. It seems at least possible that some of these now less fatal infections may produce inapparent damage in children which might conceivably contribute to the delayed development of more serious disease conditions later in life. The scientific answer to this question is certainly important enough to warrant a careful objective restudy of the still uncontrolled infections of childhood.

It is therefore suggested that intensive studies be made to determine the long-term, or delayed, results of children's diseases and that through this channel a new approach be made to the investigation of geriatrics and mental diseases. It is common knowledge that many children's infections now considered mild can produce serious damage to various tissues of the body, including those of the cardiovascular system, the joints, the kidneys, and the brain. For example, mumps can produce not only orchitis in adult males but also encephalitis in young children. It therefore seems logical to wonder whether even slight degrees of damage, which are unrecognizable by present diagnostic methods, might produce enough weakness of vital tissues or organs to render them unusually susceptible to other stresses of life and thus to interfere

with normal function in later years. If this should be true, such studies might conceivably afford useful leads and help to unravel some of the important unsolved problems of geriatrics or the profound mysteries of the mental diseases.

There is special need for a fresh approach to the investigation of mental diseases. The causes of many types of insanity still lie concealed behind the miasma of the past. Modern science has recognized the biologic causes of certain mental illness and research has been conducted along that line. By far the greatest emphasis, however, has been placed on a search for the psychic and related causes for mental disturbances. This diligent search has involved exploring the dark recesses of the mind and prying into the secrets of the human soul. Psychiatrists have brought forth a rich harvest of facts and theories to explain the increasing prevalence of mental diseases. Also, they are unquestionably able to give real relief in the treatment of certain types of mental illness.

The cold fact remains, however, that we are still groping for the basic causes of many mental diseases. We are also faced with the fact that no effective method has yet been found with which to stem the increasing tide of mental cases requiring institutional care. There is great need for effective procedures that can be applied on a wholesale community-wide scale to prevent all forms of insanity and thus relieve the nation of these costly afflictions.

I therefore urge that a new approach be adopted in the search for the basic causes of mental diseases. It seems possible that, in our current preoccupation with theories of psychic and vague environmental causes, we are dealing with what, at the most, could merely be secondary or immediate causes of mental disturbances. If this be true, then the real need is to concentrate on uncovering the primary cause or causes. In our present state of confusion about mental disease, we may be just as far from the truth as were the pioneer investigators of the last century about the causes of cholera, typhoid, syphilis, and encephalitis.

In 1882, the health officer of the city of Providence wasted much time, energy, and money trying to prevent typhoid fever by protecting the people against the stenches of the pigpens, privies, and cesspools of the community. We now know that all he needed to do was to block the normal channels for the transmission of the typhoid bacillus. May it not be possible that today we are spending too much time, energy, and money trying to clean up cesspools of the mind and that we could more profitably try to discover and remove the specific biologic causes of the mental diseases?

Regardless of the answer to this particular question, it is obvious that we are making little or no headway following our present nebulous channels of fragmentary research, and I believe that a new approach is indicated.

With this in mind, I hope to add to the staff of our School of Public

Health a group of keen young investigators, endowed with professional ability, vision, and common sense, who will dedicate their lives to an objective investigation of this problem without any preconceived notions as to the causes of insanity. If the funds can be found to finance such a group, it is hoped that its members will approach the problem of mental disease as an entirely new field of research, and that they will attack it as objectively as the early pioneers in bacteriology studied the infectious epidemic diseases during the last century.

It has long been known that certain acute infections, metabolic disturbances, and vitamin deficiencies can produce either temporary or permanent brain damage resulting in abnormal mentality. Within recent years we have learned that some infections, especially in the virus and rickettsial groups, have long incubation periods. We also know that various infectious agents, including the virus of herpes and the rickettsia of epidemic typhus fever, can remain dormant but alive in the body over long periods of time without causing recognizable symptoms until months or years later, when the individual is subjected to some contributing condition. It therefore seems likely that a still undetermined proportion of the mild or undetected diseases of early life might produce inapparent damage which could later interfere with the normal functions of the brain.

It is believed that our new research team could profitably examine the whole range of mental diseases and attempt to determine what proportion of the present large accumulation of mental patients may have developed their insanities as a delayed result of the numerous diseases and traumatic insults to which they were exposed in early life.

The investigators would undoubtedly approach their problem from a number of angles. I believe that they would first wish to make a careful study of the literature to obtain a more definite, composite picture of the disease conditions and accidents already known to produce either temporary or permanent mental abnormalities. Syphilis, encephalitis, alcoholism, and drug addiction are well-recognized examples. Also, it might be rewarding to study various types of mental patients along with normal controls, using the new technics of microbiology, physiology, and biochemistry in an attempt to detect significant relationships with the diseases and accidents experienced during their entire lives, either before or since birth.

It seems possible that through such an approach, additional specific biologic causes could be discovered for the numerous mental diseases which continue to occur. If so, the next step would be the development of practical methods for their prevention and a vigorous attack on these basic causes.

If preventive medicine is really to become the medicine of the future, its constructive objectives will have to be adopted by all our medical schools. The teaching of preventive medicine cannot be rele-

gated to a subsidiary place in the curriculum but must be carefully organized as a strong department staffed by distinguished, effective teachers of broad vision. Also, the enlightened principles of preventive medicine should be accepted, practiced, and taught by every member of the medical faculty, including the surgeon and the internist; and young physicians should be encouraged to enter the specialty of public health. When this has been done, we can hope to develop within a relatively short time a new generation of physicians who are armed with a broader concept of their professional duties and a more satisfying vision of their opportunities for national service.

Histoplasmosis Among Laboratory Personnel

MICHAEL L. FURCOLOW, M.D., WARREN G. GUNTHEROTH, AND MYRON J. WILLIS

WORKERS in a mycologic laboratory are much more likely to be infected with *Histoplasma capsulatum* than other people in the same city.

Skin reactions of susceptible personnel become positive at the rate of 13.23 conversions in one hundred months of exposure, compared to 0.47 conversions in school children in the same community. Occasionally, symptoms and pulmonary lesions develop.

At the Mycoses Laboratory of the Public Health Service in Kansas City, Kan., a chest radiogram is made for each new employee and tuberculin and histoplasmin skin tests are also given. Every three to six months, those not reacting at first are retested and the entire staff have roentgen examinations.

When skin reactions become positive, histoplasmosis is assumed, and the infected person is observed closely for symptoms and radiologic change.

Of 26 workers with initially negative response to histoplasmin, 17 reacted positively in periods of one month to three years, four months being the average. Reactions were originally positive in 30.

About the time of conversion, definite influenza-like illness occurred in 7 cases, report Michael L. Furcolow, M.D., of the University of Kansas, Kansas City, Warren G. Guntheroth, M.D., of Peter Bent Brigham Hospital, Boston, and Myron J. Willis of Atlanta. In 1 instance nine weeks were lost from work. Roentgen lesions were noted in 7 of the reactors, 5 with symptoms and 2 with none. These lesions were pneumonic in 5 cases, nodular in 1, and involved only lymph nodes in 1.

The frequency of laboratory infections with *Histoplasma capsulatum:* their clinical and x-ray characteristics. J. Lab. & Clin. Med. 40:182-187, 1952.

Systolic murmur over the subclavian artery is a sensitive indication of partial compression of that artery.

Compression of the Subclavian Artery

EDWARD A. EDWARDS, M.D., AND HAROLD D. LEVINE, M.D.
Harvard University, Boston

INCOMPLETE obstruction of the subclavian artery, a prerequisite to the diagnosis of symptomatic cervical rib or scalenus syndrome, is more readily detected by auscultation of the distal segment of the subclavian artery than by palpation of the radial artery at the wrist, believe Edward A. Edwards, M.D., and Harold D. Levine, M.D.

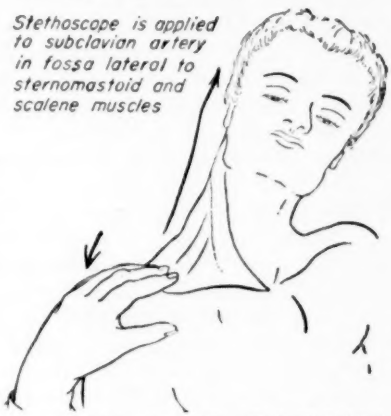
To perform the scalenus maneuver, the patient's head is tilted sharply back and to the side opposite the arm being tested. The chin is raised to face the affected side, the shoulder is sharply depressed by the examiner's hand, and the patient holds a deep breath (see illustration).

The stethoscope is applied to the artery in the subclavian fossa lateral to the sternomastoid and scalene muscles. A murmur heard with the patient at rest indicates a constant partial obstruction of the vessel. The murmur is usually intensified by the scalenus maneuver. If a murmur is audible only after the maneuver is performed, temporary partial compression of the artery is present.

No murmur may at first be heard when carrying out the maneuver, showing either the absence of arterial compression or complete occlusion. Palpation of the radial artery differentiates the latter.

The systolic murmur is diagnostic of subclavian artery compression if a transmitted cardiac murmur or arteriosclerosis of the vessel is not present. The murmur is comparable to that heard distal to the pneumatic cuff in sphygmomanometry.

The systolic murmur distal to arterial obstructions has three components: [1] a few early systolic vibrations caused by the thrust of the systolic limb of the pulse wave, [2] a more prolonged vibration starting slightly later but still in



Auscultation in the diagnosis of compression of the subclavian artery. New England J. Med. 247:79-81, 1952.

early systole and resulting from flow through the narrowed segment of artery, and [3] a few protodiastolic vibrations. The latter constitute sound transmitted in the blood stream by the closure of the aortic valve.

The murmur associated with arterial occlusion is greatest with an obstruction of about 60 to 70%.

Blood Volume Determination

SAM KRUGER, M.D., LESTER BAKER, M.D.,
AND WILLIAM D. MOSIMAN, M.D.

A SIMPLE, safe, and rapid technic of measuring blood volume by means of radioactive albumin is useful after severe hemorrhage.

Extent of the loss is shown with great accuracy by single determinations of blood volume and total packed red cell volume. Whether the patient is still bleeding is revealed by repeated tests. Serial values also indicate degrees of hemodilution after hemorrhage and response to transfusion more precisely than other laboratory procedures.

At the Veterans Administration Hospital, Hines, Ill., 61 tests were done in 23 cases of bleeding peptic ulcer. Sam Kruger, M.D., of Northwestern University, Chicago, Lester Baker, M.D., of the University of Illinois, Chicago, and William D. Mosiman, M.D., of Peoria Heights, Ill., employed the plasma volume determination method of Crispell and associates.

Radioactive iodinated human serum albumin providing 25 to 30 microcuries is diluted to 25 cc. with physiologic saline, and 20 cc. is injected intravenously. Blood is withdrawn just before injection and ten and twenty minutes after. Hematocrit level is determined.

Using standard planchets, 1 cc. of postinjection plasma is counted under an end mica window tube. An aliquot of iodoalbumin is mixed with preinjection plasma for comparison.

$$\text{Plasma volume (PV)} = \frac{\text{counts per cc. of iodoalbumin injected} \times \text{volume of iodoalbumin injected}}{\text{counts per cc. of plasma extracted}}$$

$$\text{Whole blood volume (WBV)} = \frac{\text{PV}}{100 - \text{hematocrit value} \times 0.915}$$

$$\text{Total packed red cell volume (TPRCV)} = \text{WBV} - \text{PV}$$

In healthy men, TPRCV averages 30 cc. per kilogram; PV, 43 cc. per kilogram; and WBV, 73 cc. per kilogram.

Repeated blood volume determinations in bleeding peptic ulcer. Gastroenterology 21:516-524, 1952.

Resins are effective agents if treatment is adjusted to the cardiac patient's condition and response.

Exchange Resins for Heart Failure

ROBERT S. AARON, M.D., AND RAYMOND E. WESTON, M.D.
Montefiore Hospital, New York City

SODIUM-removing exchange resins may effectively control edema in patients who have congestive heart failure resistant to other therapy.

Dyspnea and other symptoms of heart failure are greatly alleviated. Patients are sometimes able to tolerate unrestricted diets and may be treated in the outpatient clinic, state Robert S. Aaron, M.D., and Raymond E. Weston, M.D., who used carboresin, a mixture containing 12% anion-exchange resin and 88% carboxylic acid type of cation-exchange resins in treatment of 10 patients with congestive heart failure not benefited by other therapy. Tablespoon doses were given, each containing 7 gm. From 21 to 70 gm. was administered daily in divided doses one-half hour after each meal.

The dose, schedule, and duration of therapy depend upon the clinical condition and response of the individual patient. Like insulin, digitalis, or mercurials, resins must be administered with full understanding of the potentially harmful effects and patients must be given careful instructions.

Periodic serum electrolyte determinations before and during ion-exchange-resin treatment are extremely important for the proper management of the cardiac patient.

Gastrointestinal symptoms, such as anorexia, nausea, and constipation, are common and occasionally diarrhea occurs. Such disturbances usually subside spontaneously or can be avoided either by starting with small amounts and gradually increasing the dose or by intermittent administration. Constipation, the most frequent and annoying symptom, can be treated by occasional enemas and administration of methylcellulose or other mild laxative and increased fluid intake. A few patients cannot be given therapeutic doses because the gastrointestinal distress is too severe.

Acidosis, similar to that accompanying ammonium chloride administration, may appear, since the therapeutic effect of the cation-exchange resins is promotion of the loss of sodium from the gastrointestinal tract, leaving a relative excess of chloride. Impaired renal function can lead to severe acidosis because of the decreased excretion of chloride. When the serum carbon dioxide is above 20 mEq. per liter, resin therapy need not be discontinued because of slight acidosis.

Outpatient treatment of congestive heart failure with sodium-removing exchange resins. Arch. Int. Med. 90:182-195, 1952.

Hyponatremia is a potential but rare hazard. The patient taking a salt-free diet, after becoming edema-free, is the most likely to have hyponatremia. As a prophylactic measure, dosage of resin is reduced at that time. When sodium determinations are not readily available, serum sodium concentrations may be estimated as the sum of serum carbon dioxide and chloride concentrations plus 10, all in milliequivalents per liter. Warning signs are nausea, vomiting, weakness, apathy, and mental changes.

Hypopotassemia is also a potential danger because the cation-exchange resin removes potassium from the gastrointestinal tract. All patients receiving therapy should be instructed to drink 2 glasses of orange juice daily to supply about 20 mEq. of potassium. To avoid hypopotassemia, resin therapy is discontinued when vomiting or severe diarrhea ensues.

Gastrointestinal Lesions with Uremia

EUGENE E. MASON, M.D.

UREMIA is accompanied by pathologic alterations of the gastrointestinal tract in 60% of cases.

Autopsy records of 265 uremic patients were reviewed by Eugene E. Mason, M.D., of the University of Texas, Dallas, at the Mayo Clinic, Rochester, Minn. The condition was defined as a blood urea level of 200 mg. per 100 cc. with blood creatinine 10 mg. per cent or higher.

The commonest changes are edema and varying degrees of hemorrhage into the mucosa and submucosa, in the form of petechiae and ecchymoses. The esophagus, stomach, cecum, ascending colon, and rectum are most often involved, but jejunum and ileum may be affected. Gross blood is sometimes found in the stomach or bowel.

Ulcerative and pseudomembranous necrotic lesions develop in about one-fifth of cases of uremia. Diameters vary from 2 mm. to 3 cm., and the larger ulcers have gray-green necrotic bases containing cell debris and a fibrinous membrane.

Gastrointestinal hemorrhages are most likely when renal disease involves extensive vascular degeneration, as with arterial or arteriolar nephrosclerosis and chronic glomerulonephritis.

Pericarditis, another phase of the uremic syndrome, is found as often as gastrointestinal ulcers but is more likely to occur without than with such changes and may arise from different factors.

Only 10% of miscellaneous fatal diseases without uremia or high nonprotein nitrogen are associated with gastrointestinal ulcer.

Gastrointestinal lesions occurring in uremia. Ann. Int. Med. 37:96-105, 1952.

Enzymatic lysis of respiratory secretions by aerosol trypsin promotes bronchial cleansing.

Aerosol Trypsin for Bronchial Drainage

CARL R. LIMBER, M.D., HOWARD G. REISER, M.D.,
L. CHANDLER ROETTIG, M.D., AND GEORGE M. CURTIS, M.D.
Ohio State University, Columbus

THICK tenacious sputum is safely removed from the tracheobronchial tree by the lytic agent trypsin in nebulized form.

Not only are viscid secretions melted, but a copious watery discharge is produced, possibly by slight irritation of membranes. Mucous plugs are loosened, cilia become more active, and accumulated infectious debris is coughed up.

Carl R. Limber, M.D., Howard G. Reiser, M.D., L. Chandler Roettig, M.D., and George M. Curtis, M.D., have given 251 treatments to 33 patients with various diseases. For tuberculosis, bronchiectasis, postoperative atelectasis, unresolved pneumonia, and nonspecific pneumonitis, drainage was usually hastened and a downward trend sometimes reversed.

The most satisfactory nebulizer for the purpose is the Vaponefrin type designed by Barach for penicillin therapy. An exhalation valve, nasal mask, and rebreathing bag are included. Oxygen under pressure is furnished through an automatic pressure reduction valve at the desired rate.

Crystalline trypsin is dissolved in Sorensen's phosphate buffer solution, *p*H 7.1, in a concentration of 100,000 units per cubic centimeter of diluent.

To atomize 1 cc. of trypsin mixture in five or six minutes, oxygen should usually flow at speeds of 5 to 6 liters per minute. Treatment periods are limited by productive coughing, which commonly begins in fifteen minutes.

The initial dose is 50,000 units administered slowly. On the second day 100,000 units may be employed, and after the third day 200,000 units. Amounts up to 800,000 units may be given without harm but are seldom required. For atelectasis, the second dose is taken twelve hours after the first.

Treatments are provided daily until airways are well cleared, then at longer intervals to maintain open passages. To prevent reactions of dyspnea or chills and fever, 50 mg. of diphenhydramine hydrochloride and 10 gr. of acetylsalicylic acid are given twenty minutes before the aerosol. Immediately after inhalation, trypsin droplets are removed from the nose with a tap water spray.

A relatively economical method of treatment requires the patient's assistance. A nasal mask and rebreathing bag are not used, and

Enzymatic lysis of respiratory secretions by aerosol trypsin. J. A. M. A. 149:816-821, 1952.

intermittent vaporization is carried on by mouth; a Y tube is placed in the rubber tube that supplies oxygen. Large droplets are caught by an S-shaped tube inserted between the nebulizer and the glass oral tube. Inside diameter of the tubing from atomizer to subject should be ½ in.

To regulate oxygen flow, the patient places a finger over the open end of the Y tube during inspiration. Exhaled air passes out through the nose.

Results of the two methods seem equally effective.

A loose productive cough continues for one to three hours after treatment, probably until the tracheobronchial pathways are well cleansed. Sputum is unusually thin and abundant for six to eight hours.

Excessive discharges from conditions such as tuberculosis diminish gradually or with dramatic speed. In resistant cases, however, as many as 22 trypsin inhalations and doses totaling 3,950,000 units may be necessary.

Putrid material becomes thinner and clearer, pus cells fewer. Tubercle bacilli decrease rapidly and during a long course may disappear. Bacteriologic reversal persists three to six weeks after trypsin is discontinued.

Tracheal and bronchial ulcers tend to heal, and vital capacity rises, especially in cases of atelectasis and bronchiectasis. After treatment, surgery may be done on previously inoperable lungs.

Orthostatic Hypotension and Diabetes

JØRGEN H. BERNER, JR., M.D.

THE nervous system is involved in long-standing diabetes and many patients with resultant neuropathies have orthostatic hypotension.

Symptoms of this condition include a feeling of dizziness and, occasionally, even fainting when changing from a reclining to an upright position. The pulse usually increases but may remain constant or even slow. Both the systolic and diastolic pressures fall definitely as the patient rises from the examining table. The majority of the patients studied by Jørgen H. Berner, Jr., of Rikshospitalet, Oslo, were young and had had recognized diabetes for many years.

The neuropathy with which the condition is associated probably affects primarily the autonomic nervous system. Symptoms of the disorder include abnormal pupillary reflex, disturbance of bowel function with either constipation or diarrhea, bladder dysfunction including even bladder paresis, and excessive sweating.

The hypotension is comparatively rare among diabetic patients without involvement of the nervous system.

Orthostatic hypotension in diabetes mellitus. Acta med. Scandinav. 143:336-340, 1952.

Although infrequently used, the serum amylase test is a helpful guide in diagnosis of pancreatic disease.

Value of Serum Amylase Determination

THEODORE S. MALINOWSKI, M.D.
Indiana University Medical Center, Indianapolis

IN every case of acute abdominal pain, a simple test for serum amylase should be done routinely.

Levels are invariably raised by acute or subacute pancreatitis and usually by recurrent attacks in chronic involvement. High values often result from cancer of the pancreatic head or ampulla of Vater and sometimes from gastroduodenal lesions, especially if the duodenum is perforated. Disease of the salivary glands or renal insufficiency may increase blood content of the starch-splitting enzyme.

The pancreas secretes amylase not only into the duodenum but also into the circulation through interstitial spaces. Whatever prevents flow of pancreatic juice from the main pancreatic duct into the duodenum may add to the quantity in serum.

Partial or complete obstruction results from [1] intramural swelling caused by inflammation or tumor of the duct, and [2] extraluminal pressure of lesions in the pancreas. Edema or duct ligation may be a factor.

Lt. Col. Theodore S. Malinowski, M.C., U.S.A., evaluated the serum amylase test in various types of disorder, using the technic of Myers and associates. Concentrations of 70 to 240 mg. per 100 cc. were accepted as normal. The following observations were made:

Acute pancreatitis (10 cases)—Values may be well over 1,000 mg. per 100 cc. within twelve to twenty-four hours and remain high from two to twenty-four days.

Although levels are not constantly related to severity of the attack, serial tests are useful in showing activity and duration of the acute process.

Chronic recurrent pancreatitis (25 cases)—From 600 to 1,800 mg. per 100 cc. may be noted early in a painful seizure and 300 to 400 mg. later. Subacute exacerbations produce values between 400 and 600 mg. Tests may be positive for seven to ten days.

As glandular tissue is destroyed by repeated inflammation, however, enzyme fails to increase. Titers are then low to normal, even during painful episodes, and the condition is indicated by permanent hyperglycemia, steatorrhea, and pancreatic calcification.

Cancer of pancreas or ampulla of Vater (12 cases)—Tests are done when tumor is suspected in persons with painful obstructive jaundice. If the head of the pancreas or the ampulla is involved,

Clinical value of serum amylase determination. J.A.M.A. 149:1380-1385, 1952.

amylase levels may be significantly elevated; values may be notably reduced if atrophy is extensive.

Negative reactions in tests with obstructive jaundice do not demarcate benign from malignant lesions, and carcinomas of the body or tail apparently do not elevate serum enzyme.

Penetrating peptic ulcer (9 cases)—Patients with active uncomplicated peptic ulcer seem to have consistently normal results. But if lesions invade the pancreas, altered type of pain and increased amylase are valuable clues.

Gastroduodenal perforation with intact pancreas (1 case)—When the duodenum perforates a few hours after a meal, considerable amounts of amylase may spill into the peritoneal cavity and enter the circulation. Serum levels may reach 2,000 mg. per 100 cc.

Disease of salivary glands—During mumps, amylase in saliva may raise the quantity in serum without development of abdominal symptoms. Concentrations of amylase usually are the highest on the fourth day.

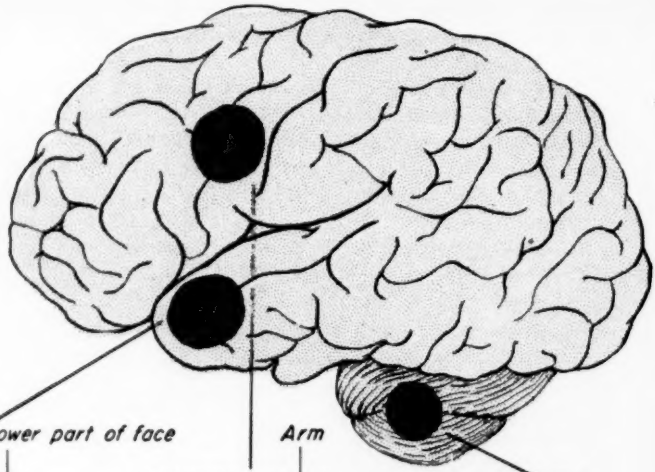
Renal disease—Since amylase is excreted by the kidneys, renal insufficiency may somewhat increase the amount in blood. Values tend to stay under 500 mg. and do not confuse diagnosis of other conditions.

Disease of liver or biliary tract (41 cases)—According to recent tests, serum amylase rarely falls in hepatitis, cirrhosis, or cholecystitis and generally remains at normal levels.

Treatment with drugs that cause spasm in the sphincter of Oddi may elevate the serum amylase significantly. Morphine and similar compounds should be withheld during investigation, especially in cases of abdominal pain and suspected biliary or pancreatic disease.

¶ THIOCYANATE EFFECTS in hypertension are less dependent on quantitative dosage than on individual blood levels of the drug, rapidity of excretion, and possible action through an indirect humoral mechanism. Amelioration of symptoms and depression of blood pressure occurred shortly after satisfactory concentrations were attained in the majority of 19 patients observed, for as long as four years, by Caroline Bedell Thomas, M.D., of Johns Hopkins University, Baltimore. Later relief was more variable. Usually the initial dose of potassium thiocyanate is 0.3 gm. and the maintenance amount is from 0.3 to 0.6 gm. a day, although from 0.15 to 1.3 gm. may be employed. Toxic reactions result from accumulation of the drug. Lowering of the basal metabolism rarely to myxedematous degree, improved renal tubular function, and nerve tissue and smooth muscle response suggest an influence of the anion –SCN on hormonal equilibrium, involving especially the thyroid, pituitary, and adrenal cortex.

Ann. Int. Med. 37:106-122, 1952.



Lower part of face

Contralateral paresis
First fibrillations
Then weakness
Finally paralysis

Arm

Leg

Aphasia

Nystagmus

Arm

Contralateral paresis

or

Leg

or

Face

Sinusitis

Motor aphasia

Cerebellar dysfunction
homolateral
Past pointing
Indirect pointing
Over pointing

Poor muscle tone

Decomposition movements

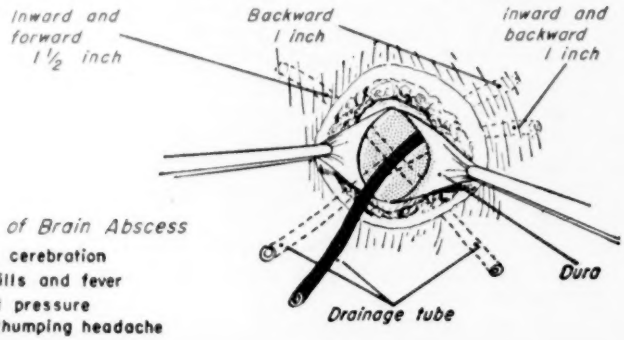
Coarse nystagmus

Homolateral paresis

Temporal lobe abscess

Frontal lobe abscess

Cerebellar abscess



General signs of Brain Abscess

Depressed cerebration
Recent chills and fever
Intracranial pressure
Dull thumping headache

Proper treatment for brain abscess is surgical, and access is best gained through the site of primary infection.

Otorhinologic Approach to Brain Abscess

BENJAMIN H. SHUSTER, M.D.
University of Pennsylvania, Philadelphia

WHEN a brain abscess develops from sinus or ear infection, surgery is almost always required. The otolaryngologist, because of familiarity with the case from onset of the original infection, is well qualified to do the operation, states Benjamin H. Shuster, M.D. Access is best gained through the site of primary infection.

Brain abscess, often mistaken for tumor or meningitis of unknown origin, should be considered in neurologic conditions developing in patients with chronic sinus or ear infection.

Diagnosis

The most striking sign of abscess is depressed cerebration. Although not stuporous, the patient is unmindful of events. The response to questioning is disinterested and may be delayed for several minutes. Attention is difficult to sustain in conversation, for the patient tends to lapse into listlessness.

The patient has a dull thumping headache which prevents sleep despite drowsiness. The pulse is usually slow even if the patient has fever.

Slight papilledema may be seen. The spinal fluid cell count is between 50 and 200.

Symptoms may follow a brief illness with fever and chills.

Neurologic examination usually reveals signs which make possible precise localization of the area involved and of the sinus or ear affected.

The temporal lobe—The most common sign of temporal lobe abscess is contralateral paralysis of the face, arm, and leg, progressing in that order. Unlike a stroke, progress of the paralysis is gradual; first fibrillations occur, then weakness, and finally paralysis.

The homolateral eye may show dilated pupil or ptosis of the lid. If the lesion is on the left side of a right-handed person, or vice versa, a slight aphasia may occur.

Cerebellar abscess—An abscess in the cerebellum interferes with cerebellar function as shown by tests of muscle coordination such as past, indirect, or overpointing or hypermetria.

Muscle tone is poor and the patient lies limply on the affected side. Although muscle power is good, movements are clumsy. The arm is the best limb to test, being the first affected. Ataxia may be observed.

Vertigo, vomiting, and nystagmus may indicate vestibular in-

Brain abscess—otogenic and rhinogenic. Arch. Otolaryng. 56:114-120, 1952.

volvement. Pressure manifestations affect the facial, auditory, trigeminal, or hypoglossal nerves.

Frontal lobe abscess—Frontal sinusitis or ethmoiditis may indicate frontal lobe abscess. Arm or leg paresis with or without associated facial paralysis may be seen on the contralateral side. Motor aphasia is occasionally encountered.

THERAPY

Immediate surgery is the only proper treatment. After the necessary mastoid and sinus surgery has been performed, the dura is adequately exposed. The operator then changes gloves, cleanses the wound by irrigation, applies tincture of iodine to the dura, makes a small incision, and introduces a searching instrument, such as a Grant cannula or grooved director.

When pus is released, a small rubber tube is glided into the cavity, guided by the director. In the cerebellum anterior to the lateral sinus, 1 in. inward and backward is a safe depth; in the temporal lobe 1½ in. inward and forward; in the frontal lobe, 1 in. backward.

The less the tubing is manipulated later the better. The tubing is left in place for from two to four weeks, outer dressings being changed when necessary.

Excision of the abscess as a whole is undesirable because too much tissue is damaged thereby. Opening the cranium over healthy brain tissue and then seeking to introduce a drain through that tissue, as usually performed by the neurosurgeon, exposes healthy tissue to infection and makes the drainage path unnecessarily long.

Penicillin in Cardiovascular Syphilis

JOSEPH EDEIKEN, M.D., WILLIAM T. FORD, M.D.,
MORTIMER S. FALK, M.D., AND JOHN H. STOKES, M.D.

DOSAGE with penicillin is not dangerous for patients with cardiovascular syphilis and apparently has beneficial effects.

Using the antibiotic with other recognized therapy for patients with congestive heart failure, Joseph Edeiken, M.D., William T. Ford, M.D., and John H. Stokes, M.D., of the University of Pennsylvania, Philadelphia, and Mortimer S. Falk, M.D., of Washoe Medical Center, Reno, Nev., observed no therapeutic shock or paradox aside from occasional slight fever. The full dose given was 40,000 to 80,000 units of sodium penicillin in aqueous solution, intramuscularly, every two or three hours around the clock until a total of 4,800,000 to 9,600,000 was reached.

Patients with nocturnal dyspnea, symptoms of congestive heart failure, and anginal pain improve more than with other therapy.

Further observations on penicillin-treated cardiovascular syphilis. Circulation 6:267-275, 1952.

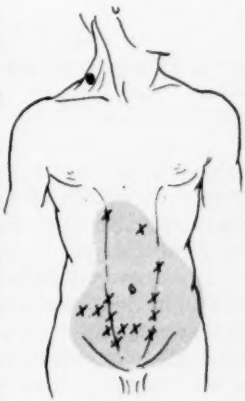
Abdominal pain from pressure on the phrenic nerve usually indicates peritonitis or hemoperitoneum.

Phrenic Rebound Sign

ELMER HOFFMAN, M.D.
Johns Hopkins Hospital, Baltimore

PRESSURE upon the phrenic nerve in the neck of a patient with hemoperitoneum or peritonitis causes abdominal pain.

The production of referred shoulder pain by diaphragmatic irritation as a result of free blood, pus, or intestinal contents in the peritoneal cavity is well known and is a consequence of the neuroanatomic connections through the phrenic nerve. An area of local hyperesthesia or point tenderness may also be found in the neck.



When an intraperitoneal hemorrhage or chemical or bacterial peritonitis occurs, stimulation of the phrenic nerve in the neck by pressure causes part or all of the diaphragm to contract. This, in turn, causes rebound abdominal tenderness in much the same way that rebound occurs from release of the anterior abdominal muscles, states Elmer Hoffman, M.D.

With the patient's head turned toward the contralateral side, the pressure point is found on either the left or right side of the neck, 0.75 to 1.5 in. above the clavicle, just posterior to the lateral border of the sternocleidomastoid muscle (see illustration). The point usually corresponds to the level of the cricoid cartilage, where the phrenic nerve is coursing anteriorly, medially, and caudally over the scalenus anticus muscle.

The abdominal pain so produced is of a sharp, sudden cramping nature but does not persist after the pressure point is released. The pain is most frequently located at the lateral border of the rectus abdominis muscle, halfway between the level of the umbilicus and that of the symphysis (see illustration).

The sensation of pain is occasionally felt at the lateral border of the muscle, about halfway between the costal margin and the umbilical level. Usually, the painful area is on the same side as the pressure point.

The phrenic rebound phenomenon may appear in twisted or ruptured ovarian cysts with hemoperitoneum, ruptured ectopic pregnancies with hemoperitoneum, ruptured gastric, duodenal, jejunal or stomal ulcers with peritonitis, and

The phrenic rebound phenomenon—a new physical sign. Ann. Surg. 136:316-318, 1952.

ruptured appendixes with peritonitis with or without subphrenic abscess. Occasionally, no response is elicited in such cases.

Healthy individuals and patients with acute inflammation of the appendix, gallbladder, pancreas, liver, or kidney do not have the rebound pain. The phenomenon is not found in pelvic inflammatory disease, even with pelvic peritonitis.

Other acute abdominal diseases without peritoneal contamination do not produce the phrenic rebound sign.

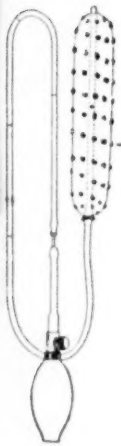
Abrasive Balloon in Diagnosis of Gastric Cancer

FREDERICK G. PANICO, M.D.

A LARGE soft type of abrasive balloon that almost entirely fills the stomach cavity is employed by Frederick G. Panico, M.D., at the University of Maryland, Baltimore, for collecting cells for microscopic examination (see illustration).

A condom 20 cm. long is covered with 75 to 100 small round fragments of foamed latex, attached in a regular pattern 1 cm. apart with rubber cement. Cellular material is caught on the latex fragments when the inflated balloon is manipulated. Since aspiration is not required, single lumen equipment may be applied.

A No. 18F tube 90 cm. long is fitted with a one-way metal adapter at each end. The proximal adapter is connected with 10 cm. of tube leading to a bulb with an air control valve. The distal adapter is fastened to 10 or 20 cm. of No. 18F tubing perforated in the center. The distal end is closed with a silver-plated tip.



The balloon, used either full or half length, is sealed around the tip and adapter with silk ties. Apparatus is marked at intervals of 45 to 75 cm. from the distal tip for placement.

A stiffer single lumen tube may be preferred, or a double lumen for combined aspiration and cytologic tests.

The balloon is swallowed, inflated with 150 to 250 cc. of air, and manipulated for satisfactory contact. Specimens are obtained in about fifteen minutes. Rinsings are centrifuged and smears prepared with Papanicolaou stains.

Improved abrasive balloon for diagnosis of gastric cancer. J.A.M.A. 149:1447-1449, 1952.

Early thrombectomy may be decisive in prevention of gangrene and tissue damage with acute massive venous occlusion.

Acute Massive Venous Obstruction

EUGENE A. OSIUS, M.D.
Harper Hospital, Detroit

RAPID occlusion of all the venous return of a limb is a dire emergency necessitating prompt recognition and early and complete thrombectomy, followed by paravertebral block and anticoagulants.

Massive venous obstruction is a sudden and complete block to the venous outflow, producing mainstem vasospasm. Arterial spasm results as well as venous dilatation and engorgement with sludge formation and propagating thrombosis, states Eugene A. Osius, M.D. The occlusion may lead to gangrene and death.

Among etiologic agents are surgical and obstetric trauma, infection, malignant disease, and traumatic injury. Frequently no causative factor is demonstrated. Dislodgment of a preformed thrombus elsewhere in the limb or thrombus formation in situ within the femoroiliac area can produce the occlusion.

Complete stoppage to the venous return from the affected extremity and a back-pressure effect prevent blood from entering the arteries, although the vessels are often revealed by arteriography to be patent. Complete occlusion, besides causing venous thrombosis, eventually leads to arterial thrombosis, anoxia, tissue asphyxia, and gangrene. Swelling and edema cause still further impairment, retention of metabolites and electrolytes, and ultimate physiologic degeneration of the part with systemic effects. Deep-seated changes in cell permeability occur, together with fibrosis, low-grade anoxia, chronic induration, and, eventually, the brawny induration, eczema, and ulcers seen in postphlebitic states.

The acuteness as well as the completeness of the thrombosis designates the diagnosis. The process begins with sudden tingling, numbness, and weakness in the extremity, associated with severe pain and accompanied or followed rapidly by pronounced swelling. Leg edema may soon involve the groin and even the lower abdominal quadrant. Large quantities of plasma, blood, fluid, and electrolytes are trapped in the extremity and thus lost to the general circulation. The swelling becomes rubbery hard and nonpitting.

As the process continues, the limb becomes cool and even cold, with loss of sensation and function. A dusky, cyanotic, purplish hue develops early, with a background of mottled red making the skin appear marbled.

Acute massive venous occlusion. Arch. Surg. 65:19-30, 1952.

Pedal and femoral artery pulses may diminish in volume to the point of complete loss. Gangrene ordinarily develops in four to eight days, is usually of the moist type and superficial. Hence, conservative management is best in the early stages. Variable degrees of shock, often severe, are observed.

Treatment should first be directed to combating shock. Measures designed to restore physiologic functions follow immediately, including fluid infusions, sedatives, antispasmodics, and transfusions of blood, plasma, or possibly blood substitutes.

When the lower extremity is involved, early and complete thrombectomy through the superficial femoral vein will relieve the obstruction and may prevent gangrene and localized tissue damage.

Paravertebral block relieves much of the vasospasm, and anticoagulants will prevent clot propagation and halt recurrent thrombosis at the site of thrombus removal. Heparin is the recommended anticoagulant.

Rectal, Anal, and Associated Anomalies

THOMAS C. MOORE, M.D., AND EDWIN A. LAWRENCE, M.D.

FEW congenital anomalies are so often accompanied by other malformations as are those involving the anus and rectum. To prevent fatal complications, correctable lesions such as atresia of the esophagus and cardiac defects should be recognized without delay.

In twenty-five years, 120 congenital malformations of anus and rectum were observed at Indiana University, Indianapolis. Additional anomalies were discovered in 86 of these cases, or 72%, and in 33 of 34 careful autopsies, or 97%.

Nearly half the deaths in anorectal cases were due to related abnormalities, of which 190 were tabulated by Thomas C. Moore, M.D., and Edwin A. Lawrence, M.D.

Anorectal lesions are classified as type 1, with narrowed rectum or anus, type 2, with blind rectal pouch quite low, type 3, pouch separated from anus by several centimeters, and type 4, rectal atresia with apparently normal anus and lower rectum. Other anomalies appear most frequently with types 3 and 4.

The urinary tract is affected in about 1 of 3 cases, not including rectourinary fistula. Megaloureter and hydronephrosis are common.

Roentgenograms may reveal unsuspected lumbar and sacral deformities, including spina bifida occulta and pilonidal sinus.

From 10 to 20% of the children will probably be mental defectives because of associated cerebral lesions.

Congenital malformations of the rectum and anus. Surg., Gynec. & Obst. 95:281-288, 1952.

First operation should eliminate both present cancer and possibility of new growth below the anastomosis.

Cancer of Rectosigmoid and Upper Rectum

EDWARD S. JUDD, JR., M.D.
Providence Hospital, Waco, Tex.

NICHOLAS J. BELLEGIE, M.D.
Mayo Clinic and Foundation, Rochester, Minn.

COMBINED abdominoperineal resection remains the best operation in most cases of rectal carcinoma.

The recurrence rate of low-lying lesions of the rectosigmoid and upper rectum is high after anterior resection, though, when the lesion is more than 10 cm. above the dentate line of the anus, results compare favorably with those of combined abdominoperineal resection.

The first operation is the golden opportunity in rectal carcinoma. Treatment of recurrent lesions can rarely be as aggressive as the surgeon believes desirable. While the great propensity is to save a patient's defecation mechanism, this procedure will actually be the greatest disservice if recurrence requires further operation.

Edward S. Judd, Jr., M.D., and Nicholas J. Bellegie, M.D., report the following conclusions from a study of 282 cases of anterior resection for malignant lesions 20 cm. or less from the dentate margin, from 1936 through 1945:

- For lesions 16 to 20 cm. from the line, anterior resection can be accomplished at low risk and with an excellent five-year survival rate; recurrence incidence is only 16.4%.
- For lesions 11 to 15 cm. from the line, anterior resection entails a five-year recurrence rate of 30.2%.
- For lesions 10 cm. or less from the line, the five-year gross recurrence rate is 41.7%.
- Lesions situated well up within the rectosigmoid region have a surprisingly low recurrence rate.

When properly performed, low anterior resection controls the upward and lateral zones of spread in exactly the same manner as does combined abdominoperineal resection. The recurrence of carcinoma within the bowel is about twice as frequent as that in the pelvis.

The lesion usually recurs long before five years have elapsed. Many patients are free of demonstrable malignant change for at least eighteen months after anterior resection. The significant interval is between eighteen and twenty-four months after operation, the average time for the appearance of recurrent malignant growth being twenty-two months after resection.

Few patients with recurrences have further surgical treatment, although surgeons are becoming bold-

Carcinoma of rectosigmoid and upper part of rectum. Arch. Surg. 64:697-706, 1952.

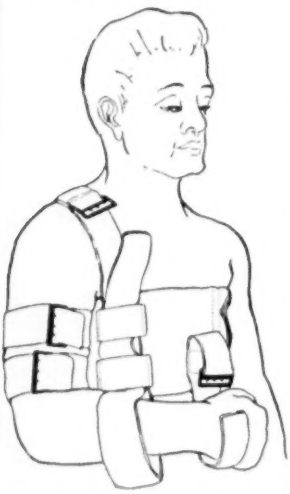
er because of more effective means of preparing the intestinal tract for safe operation. Incidence of survival after a second resection is not high.

Since 70% of the cancers of the entire colon and rectum are within that area of the bowel visible to the proctologist, the surgeon should prepare the patient for the future by eliminating not only the present cancer but the possibility of a new growth in the fertile field below the anastomosis. In some clinics, radical sacrifice of the entire terminal portion of the colon, anus, and sphincters is probably applied in too many cases.

Fabric Shoulder Splint

ALLAN B. HIRSCHTICK, M.D.

IMMOBILIZATION of the shoulder and upper arm, when a rigid splint is not required, may be satisfactorily attained with an easily applied fabric splint which does not need frequent inspection or reapplication, is comfortable, and can be worn indefinitely.



The splint, described by Allan B. Hirschtick, M.D., of the American Hospital, Chicago, consists of a chest band to which are affixed two straps and buckles to hold the arm in adduction (see illustration). Another strap is buckled to the posterior segment of the chest band and is passed over the shoulder, down the anterior chest wall and underneath and around the forearm, to be fixed to itself by means of a buckle. The over-the-shoulder strap is detachable at both ends, permitting the splint to be used on either arm.

Acromioclavicular separations and some fractures of the outer third of the clavicle require a positive continuous elevating force on the forearm and arm. This can be accomplished by the fabric splint which has also been successfully used for fractures of the surgical neck of the humerus, certain fractures of the scapula, bicipital tenosynovitis, and other soft tissue lesions about the shoulder not requiring abduction. The utility splint is well adapted to fix shoulders after operations or reduction of dislocations.

A utility shoulder splint. J. Internat. Coll. Surgeons 17:668-670, 1952.

Although still fraught with danger, manual removal of the placenta is not as hazardous as formerly.

Manual Extraction of the Placenta

HUGH HALSEY II, M.D.
Cornell University, New York City

WITH judicious management, rapid blood replacement, and prophylactic use of antimicrobial agents, manual removal of the placenta can be performed with reasonable safety and expectation of little subsequent morbidity.

After proper preparation, the procedure is better than violent fundal manipulation to express the placenta from the uterus but is not preferable to spontaneous expulsion.

The principal complications of manual extraction are infection and hemorrhage, states Hugh Halsey II, M.D. The incidence of these has been decreased in recent years, but the puerperal morbidity after manual removal is still about 4 times as great as the general clinic incidence. Death may result. Rupture of the uterus and uterine inversion occur uncommonly.

Placental retention for one hour without bleeding is the most common indication for manual removal. Since morbidity is considerably more likely to occur when the blood loss before removal exceeds 300 cc., no delay should be permitted in starting the procedure when the patient is bleeding.

Prophylactic manual removal may be performed for simple placental retention to shorten the third stage or to facilitate repair of a cervical or sulcus laceration.

The placenta may be free or totally or partially adherent, with or without uterine constriction, at the time of manual removal. Placenta accreta is not common. Attempts to express an adherent placenta by fundal manipulation often start bleeding which necessitates immediate manual extraction. When a partially separated placenta is retained, bleeding is likely to be excessive. Incarceration of the placenta by some form of uterine constriction is more common when oxytocics are used during the third stage, but the incidence of hemorrhage seems to be lessened.

Age, race, and abnormalities of the antepartum course have little bearing on the incidence of manual removal of the placenta. The higher incidence among multiparas may be the result of poor uterine contractility with bleeding. Some previous obstetric abnormality is noted in about two-thirds of multigravidas needing removal, abortion being the most common. Prolonged labor with operative delivery accentuates the necessity for removal.

Bleeding is more common when general anesthesia is used. Delivery

Manual removal of the placenta. Am. J. Obst. & Gynec. 64:38-52, 1952.

of a premature infant through an incompletely dilated cervix is a factor in placental retention. Manual removal at a subsequent pregnancy is not common.

Most placentas removed manually are normal. The abnormal placentas are likely to have bi- or tripartite characteristics, succenturiate lobes, or evidence of infection.

If the placenta fails to separate within thirty to forty-five minutes of delivery, or after episiotomy repair, digital palpation through the cervix should be done to determine the separation. When manual removal is indicated, a molar lactate solution is started in the arm through a transfusion set.

Anesthesia is induced with either nitrous oxide–oxygen–ether or Pentothal Sodium. The operator dons a version cuff and introduces the hand and arm slowly through the vagina into the uterus. The placental edge is located and, if the hand is within the amniotic sac, the membrane is penetrated. With the other hand on the fundus externally as a guide, the placenta is dissected from the uterine wall by opening and closing the fingers in scissor fashion until the whole placenta is free.

Pitocin, 15 minims, is now added to the infusion, and the hand grasping the placenta is slowly withdrawn, allowing the uterus to contract around it. The placenta is carefully examined and, if parts seem to be missing, the cavity is reexplored.

The infusion is allowed to drip slowly and the patient is observed for an hour or so in the delivery section. Penicillin, 400,000 units, is given routinely for at least three days. If the blood loss is excessive or shock is present, blood is given immediately.

When active bleeding occurs before completion of the third stage, the gloved hand is introduced into the uterus for exploration and the placenta is removed manually, followed by bimanual hemostasis. Uterine packing is no longer used. Transfusion is started.

Before manual removal, an attempt can be made to get spontaneous placental expulsion by use of a Pitocin infusion. Success will occur most frequently when the placenta is separated or only slightly adherent but incarcerated.

• VAGINAL ASEPSIS is well achieved with pre- and postoperative use of suppositories containing penicillin, with or without streptomycin. Richard M. Moore, M.D., of St. Louis University, St. Louis, observed complications in only 16 of 325 patients given various forms of vaginal asepsis, the low incidence being explained by the fact that about half the cases involved only minor procedures. Of the 6 agents used, best results in maintaining a sterile field were obtained with the penicillin and the penicillin and streptomycin suppositories.

Am. J. Obst. & Gynec. 64:387-391, 1952.

Version and extraction is too hazardous a procedure to be employed except in two specific situations.

Internal Podalic Version and Extraction

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State University of Iowa, Iowa City

WITH other resources now at hand, only two obstetric difficulties still seem to warrant the grave risks of internal podalic version and extraction.

One indication is prolapse of the cord in a vertex presentation, with the cervix completely dilated and the presenting part above the spines.

The other is transverse presentation of a second twin, according to William C. Keettel, M.D., and Frank W. Crealock, M.D.

Among the dangers of podalic version are rupture of the uterus and cervical tears, which frequently result in the mother's death from hemorrhage. Fetal mortality is always high, owing chiefly to anoxia and intracranial hemorrhage.

Formerly useful in many situations, the procedure was employed in 1% of deliveries at the State University of Iowa before 1940. Recently the rate has fallen to 0.1%.

Podalic version was done in 100 single pregnancies; 39 babies were stillborn and 19 died soon after birth. Of 56 twins delivered the same way, all but 1 being the last born, 53 survived. Although 5 mothers succumbed, only 1 death resulted that could be attributed to version.

Before the days of powerful antibiotics, liberal blood transfusions, improved anesthesia, and modern surgical technics, puerperal infections were a serious threat to the mother. To perform cesarean section during labor was extremely hazardous. If the abdominal approach was chosen and the patient was grossly or potentially infected, hysterectomy was done.

Therefore, when complications developed, the vaginal route was preferred, even at the risk of fetal death. If spontaneous birth was impossible, podalic version was employed. The second twin was often so delivered just for practice. In fact, some physicians utilized the procedure in most of their obstetric cases.

Widely accepted indications were transverse presentation, compound presentation, impacted face and brow, prolapsed cord, placenta previa managed by Voorhees bag, failure of forceps, disproportion, persistent occiput posterior, and uterine inertia.

Similar reasons are listed even in current textbooks, together with eclampsia and abruptio placentae

The place of version and extraction in present day obstetrics. J. Iowa State M. Soc. 62:251-255, 1952.

with a Voorhees bag. Numerous practitioners, including recent graduates, still handle several problems by the podalic method. Yet better technics are available, partly because abdominal delivery is now performed safely even in advanced labor.

Transverse position is not easily diagnosed but should be noted early in labor. When abdominal or rectal palpation leaves some doubt, sterile pelvic examination should be done immediately. If presentation cannot be changed to vertex or breech and the child is viable, cesarean section is done. Fetal mortality is 16.6% for cesarean section in contrast to 64.1% for version and extraction.

In case of *prolapsed cord* with vertex presentation and the cervix fully dilated, forceps are used if feasible. With a partial dilatation, full expansion may be awaited, meanwhile using oxygen and deep Trendelenburg position. In selected cases, cesarean section is the best procedure.

Internal podalic version and extraction may be employed for cord prolapse with vertex presentation and full cervical dilatation if the presenting part is too high to risk forceps. Standard textbook technic is utilized, preferably with deep ether anesthesia.

Slight *placenta previa* requires rupture of membranes or traction on the scalp. Abdominal delivery is done with total previa.

Failure of forceps no longer calls for traumatic methods, since extraperitoneal or low cervical section is possible.

Persistent occiput posterior may be corrected by forceps rotation.

Patients with *uterine inertia* are watched closely, given antibiotics, and stimulated carefully by intravenous Pitocin. When labor is protracted and the cervix incompletely dilated, some type of section should be undertaken.

Unless presenting crosswise, the *second twin* is delivered spontaneously, after artificial rupture of membranes.

¶ ANOGENITAL PRURITUS is relieved dramatically by ACTH. The mode of action is unknown, but presumably one function of the hormone parallels the behavior of the antihistamines. In 10 cases observed by John L. Fromer, M.D., and Anne T. Smith, M.D., of the Lahey Clinic, Boston, itching stopped almost completely within twenty-four to forty-eight hours, excoriations subsided, and erythema, lichenification, and tenderness decreased. The usual plan of therapy, in addition to sedation, colloid baths, antihistamines, and local applications, is daily intravenous administration of 10 mg. of ACTH in 500 cc. of glucose solution, at the rate of 60 to 70 drops a minute, for six days; intramuscular injection of the hormone for two to four days; and a gradually diminishing dosage of steroids intermittently for four weeks.

Lahey Clin. Bull. 7:232-238, 1952.

Dermatitis is not likely to result if home cold-wave solutions are properly used.

Medical Aspects of Home Cold Waving

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WHEN used as directed, solutions bought for permanent cold waving at home are unlikely to damage healthy hair and skin.

The active element, ammonium thioglycolate, is not irritating in the usual strength. Sensitization is extremely rare and apparently confined to eczematous contact dermatitis.

Dyed or bleached strands may be injured along the shafts, if processed too long or too intensively, but roots and new growth are not affected.

Among 1,000 users of wave lotion, Matthew J. Brunner, M.D., found no worse reaction than slight transient erythema of scalp, forehead, or neck; outcome of ninety-minute contact tests was similar. No systemic intoxication was observed.

From 1,000,000 unit sales, a manufacturer has received only 22 complaints of cutaneous reactions, 17 probably representing irritant, and 4 allergic dermatitis. A generalized urticaria developed in the remaining case, perhaps from percutaneous absorption in an anaphylactically sensitive person.

Cold waving is based on the findings in recent investigations of hair keratin.

The hair filaments consist of long polypeptide chains attached crosswise and folded into grids by side chains. When tension is applied to a hair, the grid straightens and the fiber lengthens, but returns to the original form on release if elastic limits are not exceeded. Wet hair stretches more readily and, if dried in a new shape, contracts slowly. This mechanism is the basis for the temporary curling of hair with water.

A more durable set is achieved by addition of heat, alkalies, or reducing agents to water. Some cross linkages are actually released and, after stretching of fiber, are reattached at new sites. A permanent curl is produced by spiral winding of tresses on small rods.

In cold waving, thioglycolate salts are employed at room temperature to reduce disulfide cross linkages to free form. Then oxidizing agents, commonly sodium or potassium bromate or sodium perborate, are applied to restore bonds in new position and also neutralize residual thioglycolate.

Most cold wave products for amateurs contain ammonium or sodium thioglycolate in concentrations of 5.5 to 7%, with *p*H raised to 9 or 9.5 by ammonium or sodium

Medical aspects of home cold waving. Arch. Dermat. & Syph. 65:316-326, 1952.

hydroxide. Solutions are considerably weaker than those intended for beauty shops.

Irritant dermatitis is generally due to increased keratolytic power. For example, an impermeable plastic or waxed paper cap, used after application of the thioglycolate solution, may retard oxidation and maintain activity too long. In other cases, too much solution may be employed, and the surplus is held against neck and ears by a towel turban.

Strong detergent shampoos, massage friction, high drying temperatures, and previous or concurrent scalp lesions, such as inflammatory dermatitis, may cause reactions to wave solution. Occasionally fluid is left on overnight or neutralization is incomplete. Hands are affected chiefly among women who often give waves for friends.

A patient may consult the dermatologist because hair has poor texture, patchy or diffuse breakage, altered color, or peculiar odor after a permanent wave. Patchy breakage results from too tight winding on rods during neutralization, when fibers are weak. Acute dermatitis of the scalp, known as a pull burn, sometimes corresponds with loss.

Diffuse breakage occurs in overprocessing of bleached or otherwise injured locks, or with severe eczema of the scalp, regardless of the allergen.

Overfrequent waving, more than 3 or 4 procedures a year, may weaken the shaft by rewaving the same segment, especially in women past 60 years of age, when the growth of long hair has practically stopped.

Discoloration after waving is almost wholly limited to dyed hair. The original stain contains several hues, and some are extracted, others left.

Unpleasant odor, usually noted at the first shampoo after the wave, is due to inadequate neutralization and may be removed by repetition of this phase.

Some changes blamed on curling lotion are caused by unrelated factors, including trichotillomania, alopecia areata, postfebrile alopecia, and pediculosis capitis with impetigo.

Eyes may be irritated by entry of waving or neutralizing fluids, particularly if not flushed with water. However, conjunctivitis subsides in a week without after effects.

¶ CYSTIC ACNE VULGARIS may improve and scars and pits regress as a result of parenteral therapy with crude liver extract. M. Murray Nierman, M.D., of Calumet City, Ill., treated 22 patients refractory to established procedures with thrice-weekly injections of 1 cc. of a commercial preparation, Kutapressin, for as many as 24 doses without untoward reactions. An unidentified factor, potentiated by heat, purification, and concentration, possibly effects circulatory changes by cutaneous vasoconstrictive action.

J. Indiana M.A. 45:497-502, 1952.

Though therapy is available, patients frequently need reassurance of the nonmalignancy of skin lesions.

Benign Lesions of the Skin

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SINCE more than 95.5% of skin growths are benign, reassurance is often the most important factor in dealing with patients harboring deep anxiety about such lesions.

On account of the likelihood of malignant development, cutaneous horns should be removed and senile keratoses and pigmented nevi in areas exposed to trauma closely watched, says Clinton W. Lane, M.D. If therapy is advisable to allay fears or to remove unsightly tumors, numerous simple procedures are available.

Lesions of Congenital Origin

Of the common skin growths appearing at birth or early in life, *capillary hemangioma,* or nevus flammeus, is the only vascular nevus usually unresponsive to treatment.

Spontaneous regression occasionally occurs with *hemangioma simplex.* Carbon-dioxide snow applied for five to ten seconds no oftener than once a month is frequently effective. Also valuable are radium applied at a distance through brass, aluminum, or lead, roentgen and contact x-ray therapy, and injection of sclerosing solutions.

Cavernous hemangioma, extending deeper into the skin, should be treated by filtered radiation, surgical excision, or injection of quinine-urethane solution.

Nevus araneus is a small telangiectasis. Treatment is most successful if the central red dot from which spider-like lesions radiate can be eradicated by electrolysis or electrodesiccation. Current should be small and application time short to avoid scar formation.

Pigmented moles are nonvascular nevi which can, but rarely do, become malignant melanomas. Those occurring in easily traumatized areas should be excised, preferably by actual cautery, and any showing recent growth and deepening color, with oozing fluid or crusted surface, should be excised widely and the regional glands investigated and watched. Irritating therapy such as carbon-dioxide snow, liquid nitrogen, or cauterization by acid should not be used.

Nonpigmented nevi are benign, and removal is done only for cosmetic purposes. Facial nevi should be surgically excised, but elsewhere removal can be by actual cautery or electrodesiccation.

Growths Appearing Later

Liquid oxygen applied for several seconds is effective for *sebor-*

Common benign lesions of the skin. Chicago M. Soc. Bull. 55:69-73, 1952.

rheic keratoses, slightly elevated, flat-topped growths on the upper back, anterior chest, neck, or face, occurring late in life of persons with seborrheic skin. *Senile keratoses* may develop into squamous-cell carcinoma and should be removed by roentgen ray, radium, electrodesiccation, or actual cautery. The growths are single or multiple, flat or raised, with wart-like, grayish brown or darker, scaly surfaces.

Cutaneous horns, hard, yellowish brown projections usually on scalp or face, extending from a thickened, indurated base, are frequently malignant and are best treated by excision with the actual cautery.

Cutaneous tags, small filiform, pinhead to match-size projections on the neck and upper trunk of women, especially during or after menopause, and occasionally on men, are best removed by electrodesiccation.

Another skin lesion of elderly people, *senile ectasia,* consists of dilated blood vessels. No symptoms occur and treatment is unnecessary, except when fear of cancer prompts removal.

The best treatment for *keloids* is filtered radiation, preferably with radium, but the procedure is ineffective unless started early. Keloids usually result from trauma, such as a burn, so that surgical excision or cauterization is ineffective because the keloids will recur in the scar.

Lesions of Infectious Etiology

Because warts are prone to disappear spontaneously, the efficacy of therapy is hard to evaluate. Local destruction of the lesion still seems to be the most successful method.

For *verruca vulgaris,* removal with the actual cautery, electrodesiccation using local anesthesia, and freezing with liquid oxygen or nitrogen are the most effective procedures. Intradermal injection of a soluble bismuth compound and of sclerosing solutions is effective. For resistant types involving the paronychial tissues, application of monochloroacetic acid to the wart surface followed immediately by a 40% salicylic acid plaster may be beneficial.

Properly used, roentgen or radium radiation will eradicate 80 to 85% of *plantar warts.* The wart is pared and a lead foil with an opening the exact size of the wart is applied securely to the foot; then 1,500 r is given—the only dosage which should ever be used on a single verruca. If the wart does not disappear, salicylic acid plaster or surgical excision is recommended. The mosaic type of plantar wart is resistant to therapy. Repeated application of 40% salicylic acid plaster followed by a strong silver nitrate solution, 1 gr. to 1 minim, may be successful.

Verrucae acuminatae are best treated by topical application of 20% solution of podophyllin in 95% alcohol or tincture of benzoin. The application should be thoroughly washed off in eight hours. The medication may cause severe conjunctivitis on the face.

Verruca plana juvenilis is difficult to treat since occurrence is chiefly on faces of young women

and a good cosmetic result is essential. If psychogenic therapy is ineffective, light desiccation or brief freezing with liquid oxygen may be tried. Aureomycin internally and locally is reported beneficial.

Granuloma pyogenicum consists of a rapidly growing pedunculated or sessile tumor at the site of an injury. The lesion is believed to result from infection with the pus organisms after trauma. Removal with the actual cautery under local anesthesia is recommended.

Work Capacity with Tuberculosis

EDWARD E. GORDON, M.D.

PATIENTS confined to bed with tuberculosis may perform therapeutic tasks requiring as much as 65% increase in energy expenditure with little mechanical stress upon the lung.

Determination of the energy cost of some common therapeutic and personal tasks permits a rough estimate of the intensity of the cardiorespiratory stress imposed upon the patient. Edward E. Gordon, M.D., of Columbia University, New York City, finds, for example, that using a wheel chair, even at a slow rate, more than doubles basal energy expenditure.

Walking slowly requires a 160% increase, and taking a shower augments energy expenditure 242 to 377%. Ascending a flight of stairs requires 13 times the basal rate. Therapeutic measures, such as leather tooling, making link belts, knitting and sewing, chip carving, copper tooling, and using a hand loom, which may be done in a reclining position, require only a 22 to 50% increase in energy output.

As important as the over-all energy expenditure is the intensity of a given stress. More exact knowledge of this stress may be obtained by plotting change in tidal volume against the rise in energy cost.

Tidal volume is a better measure of lung stress than pulmonary minute volume because minute volume may be increased simply by augmenting rate and not depth of respiration.

Analysis of tidal volume data reveals that in three-fourths of the work experiments yielding up to 65% energy expenditure, 20% or less increment in tidal volume is required. Thus, most therapeutic tasks fall in a safe range of work performance. These activities should not be permitted to patients with impaired pulmonary function or decreased cardiac reserve. Moderate increases in pulmonary ventilation in these individuals may produce dyspnea.

Energy costs of various physical activities in relation to pulmonary tuberculosis. Arch. Phys. Med. 33:201-209, 1952.

Passive exercise by electrical stimulation is useful only if return of voluntary control is possible.

Electrotherapy for Denervated Muscles

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ELECTRIC currents may be effectively employed for direct effect on tissues and as ionic carriers in therapy of innervated and denervated muscles. When prolonged treatment is needed, an inexpensive apparatus may be used by the patient at home, with careful supervision and periodic review by the physician.

Stimulation of normally innervated muscle—A muscle with an intact nerve supply from the anterior horn cell peripheralward is excitable by many types of currents. Since single shocks are ineffective, the currents are delivered in barrages. The frequency must be high enough to get temporal summation but not so high as to enter the refractory period of nerve. In circuits with duration and frequency somewhat independent, about 100 cycles per second is an efficient figure and causes relatively no pain, according to Sedgwick Mead, M.D.

Electrotherapy is an excellent adjuvant to muscle reeducation in early pyramidal tract hemiplegia, severe inhibition from trauma, acute arthritis, local pain, or surgical procedures or, to a lesser degree, in hysteria. In spastic hemiplegia, the inhibited and overstretched upper limb extensors and lower limb flexors are treated preferentially, and only for a few weeks.

The value of tetanizing currents to prevent thromboembolism, to control spontaneous movements of autonomous spinal cord segments, or to control low back pain and periarthritis is controversial.

Stimulation of denervated muscle—Passive exercise by electric stimulation is beneficial for nerve suture and should be used in other cases in which neurotization is confidently expected. Daily stimulation of denervated muscle retards atrophy and leaves the muscle in better condition for restoration of function. When return of voluntary control is impossible, electrotherapy is useless.

The choice of currents in treatment of denervated muscle is restricted. Direct (galvanic) and 25- to 30-cycle sinusoidal currents are best known. Intolerance of the patient to pain produced by physiologically adequate amounts of current seriously limits use.

Home treatment of denervated muscle—Electrotherapy may be carried out satisfactorily by the patient at home after suitable instruction. A home unit stimulator can [1] assist in maintaining paralytic muscles in good nutritional condi-

Simplified electrotherapy. Arch. Phys. Med. 33:267-272, 1952.

DIAGNOSTIC CRITERIA FOR MUSCLE DENERVATION

Type of Current	*Normal (Nerve)*	*Denervated (Muscle)*
Direct*		
Type of response	Single sharp twitch at on and sometimes at off	Sluggish contraction, repetitive at high intensities
Motor point	Present	Absent
Polar formula	Cathodal threshold usually lower than at anode	Variable; usually equal
Threshold (rheobase)	———	Lower than normal until reinervation begins; then much higher
Tetanizing†		
Type of response	Tetanus (response normal in hysteria and upper motor neurone lesions)	No response or only at extreme intensities

*Unidirectional current pulses of 50 millisecond duration or longer.
†A barrage of discrete impulses, electronic or induced, of about 1 millisecond or less in duration. There are theoretic objections to the name tetanizing current, since brevity of impulse, not repetition, is the essential feature.

tion for reneurotization and in avoiding fibrosis and atrophy and [2] reduce the expense and inconvenience of frequent office trips.

Stimulation should be done at least twice daily at the greatest tolerable intensity for about 15 contractions. The technic is demonstrated thoroughly beforehand, and the patient is convinced of the safety of the unit. Specific muscles to be treated are marked with silver nitrate and the patient is given a detailed instruction sheet. Because the patient is in complete control and can stop at any time, he usually gives himself larger shocks than he will endure from someone else.

The chief requisites of a home treatment unit are an adequate wave form for stimulation of denervated muscle, safety, and simplicity. A unit can often be obtained by rental.

¶ EXCESSIVE SWEATING due to emotional factors may be controlled by mephobarbital, particularly when psychotherapy is effective for other symptoms but does not seem to affect the hyperhidrosis appreciably. The drug apparently reduces activity of the diencephalon when given in amounts below the hypnotic or anesthetic level and may succeed after other barbiturates fail. Wilson G. Scanlon, M.D., of New Canaan, Conn., prescribes a daily dose of 0.2 to 0.4 gm. Hyperhidrosis of 2 women was so far diminished that social activities could be resumed without embarrassment.

J.A.M.A. 150:28-29, 1952.

A high measure of suspicion and barium enemas in doubtful cases aid early diagnosis of intussusception.

Errors in Diagnosis of Intussusception

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INITIATION of definitive treatment is seriously delayed if intussusception is not diagnosed on the patient's first visit to the hospital after onset of symptoms. Death can ensue while therapy is being instituted for another disease, warns Mark M. Ravitch, M.D.

Intussusception is usually an easily recognized condition. Typically, well-nourished boys 5 to 9 months old are affected. In many cases, the symptoms and signs supervene during an insignificant illness; the child sometimes has had a similar episode, with spontaneous recovery.

The usual attack begins with a sudden onset of abdominal pain. The child cries out, writhes, may vomit, then is suddenly well, only to be seized again fifteen or twenty minutes later, when a normal stool may be evacuated. The attacks of pain and vomiting become more frequent, and the child is generally drowsy and listless, but sometimes is playful or restless and fretful between bouts of colic. Feedings may be accepted but are usually not retained. A second stool without blood may be passed; after that only blood and mucus are discharged.

Pain and vomiting are the most common initial symptoms. Practically all the patients vomit before treatment is begun, and pain is nearly always evident, especially if the child is over 2 years of age. Blood is noted at some time in the vast majority of cases of older children, but is considerably less common when the child is under 2 years of age.

A significant temperature elevation, moderate leukocytosis, prostration, and dehydration are frequent physical findings. The abdomen is usually flat or scaphoid, relaxed, soft, and not tender. A palpable mass is pathognomonic, but may not be found when the intussusception passes into the hepatic flexure and is behind the costal margin and the right lobe of the liver. Frequently no mass is felt in an ileoileal intussusception, which is difficult to diagnose and which carries a high mortality rate.

Slight tenderness and resistance may be demonstrated over the mass. Later, the nonspecific signs of intestinal obstruction—distention and intestinal patterns—may obscure the mass. Occasionally, the mass is felt only by rectal examination.

Consideration of errors in the diagnosis of intussusception. Am. J. Dis. Child. 84:17-26, 1952.

Errors are commonly made because the child is thought to have dysentery. Diarrhea may occur or the stools can be normal. Intussusception should be thought of and barium enema studies conducted when a child has fever, vomiting, bloody stools, and abdominal pain.

The diagnosis may be missed because of the duration of symptoms and the relative well-being of the child. The symptoms may have existed for a month or more, with hospital admission being sought only because the condition has become worse. Stools may be passed daily and bleeding into the bowel be inconspicuous or absent. Chronic intussusception usually does not become gangrenous and the intestinal canal does not become completely obstructed.

Intussusception can develop in a child already seriously ill with another disease. The significance of the change in symptomatology must be appreciated.

Sufficient spasm, rigidity, and tenderness can be found to suggest other acute abdominal conditions requiring surgery, such as appendicitis. Spasm may be enough to prevent early palpation of the mass.

The age of the patient can be misleading. Frequently, in initially misdiagnosed cases, the patient is over 2 years old, but may be a newborn infant.

Blood in the stool or currant-jelly stool is a classic sign but may not appear. Occult blood is occasionally found. Rectal examination or a pink enema return may indicate the presence of blood.

Palpation of a mass is not essential to diagnosis. When mechanical intestinal obstruction is suspected, a barium enema should be done immediately. If the material runs into the distal ileum, the intussusception is not the ordinary kind at the ileocecal valve, but one higher in the ileum. Ileoileal intussusception usually shows distended gas-filled loops in the roentgenogram. Barium enema may reduce the typical intussusception.

¶ **CORTICOTROPIN** dramatically controls the symptoms of acute rheumatic fever when given at the earliest possible time in an initial daily dose of between 1 and 2 I.U. per pound of body weight. In a study of 18 children between the ages of 3½ and 15 years suffering initial attacks, Vincent C. Kelley, M.D., of the University of Utah, Salt Lake City, found that amounts above and below these figures were wasteful of the drug and of hospital days. The only adjunctive medication was 500 mg. of ascorbic acid daily. No residual indication of cardiac damage was detected in 13 patients; grade 1 mitral systolic murmurs were noted in 5. Increasing evidence suggests that morbidity may be reduced and the characteristic biochemical aberrations of the active phase shortened by intramuscular corticotropin therapy.

Am. J. Dis. Child. 84:151-164, 1952.

First prerequisite to treatment of cyclic ills is exclusion of the possibility of organic disease.

Periodic Disorders of Children

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REAL problems in diagnosis and management are presented by children who become ill, in some instances extremely so, without showing any satisfying or conclusive evidence of organic disease recognizable from the immediate history or physical examination or even after extensive laboratory tests.

The physician's duty in the management of what Alfred White Franklin, M.B., terms the periodic syndrome includes a comprehensive interpretation of all findings to eliminate absolutely the question of organic disease, to explain to the parents how to understand and manage the child's disability, and to seek a better understanding of the mechanism of the attack and symptomatic relief.

Every effort must be made to separate fact from hysteria in a parent's account of the child's attack. A mother may express her own unhappiness or her insecurity through undue apprehension or fear over a child's health. The family's life and management of the child should be studied.

Even though an organic basis is not demonstrable, a periodic illness may be real and may have a most deleterious effect upon the child, particularly as he grows older. Moreover, the disease may be most detrimental to the family welfare, since the apprehension of another attack is ever present. Therefore, reassurance of the parents is essential.

Abdominal Pain

A child with recurrent or chronic intestinal obstruction may suffer greatly before the condition is recognized as serious, unless a physician sees an attack. In analyzing abdominal pain, some simple factors that can cause such discomfort must be considered, including diet, mastication, dental caries or lack of teeth, and constipation and attempted treatment with roughage or unwise purgatives.

The possibility of appendicitis must be weighed. In children under 6 the appendix is almost never the cause of recurrent abdominal pain. Tuberculous mesenteric nodes are often symptomless but may cause recurrent pain. With older children the question of peptic ulceration should be studied. Intestinal parasites may cause pain, particularly tapeworms and roundworms.

Cyclic Vomiting

Manifestations of cyclic vomiting include vomiting of everything

Periodic disorders of children. Lancet 262:1267-1270, 1952.

ingested, even water; headaches; ketosis; and illness with dehydration reaching an alarming stage, occasionally death. Before labeling a patient a cyclic vomiter, an intracranial condition must be carefully sought.

In some cases the onset of vomiting is associated with an infection outside the alimentary tract. Tonsillar disease is sometimes a trigger phenomenon; in such cases, tonsillectomy will be curative.

Respiratory Tract

Many children have recurrent cough and bronchitis and paroxysmal night coughing. The diagnosis is often poised between outright infection and allergy. The chronic nature of the condition causes the parents to worry about tuberculosis, while the physician also considers the tonsils, adenoids, and sinuses as well as asthma and bronchiectasis.

Many of these respiratory conditions belong among the cyclic disorders, but too sharp a line must not be drawn between this group and asthma.

If possible, excessively extensive and tedious diagnostic research should be avoided or postponed for the child's welfare and to prevent parental anxiety.

In such instances, a careful survey of the history and of the home living conditions, both physical and emotional, may furnish the correct answer.

Treatment

The psychiatrist's evaluation of the child's stability and of household difficulties may be needed for sound treatment. The psychiatric social worker may furnish new and essential facts about the patient and family.

Use of play therapy and special coaching, exposition on the conduct of home life, or explanation of the emotional needs of growing children can be of great value. The question may be: Has a normal child been subjected to too big a strain, or has a normal strain broken an unstable child? Sometimes both factors are responsible. The environmental condition can be influenced in a fairly simple case by any physician with perception; the unstable child is best immediately referred to a psychiatrist for treatment.

¶ EXTERNAL EYE DISEASES, particularly the more acute forms of conjunctivitis, keratitis, and dacryocystitis may respond to Drilitol. Designed for upper respiratory infections, the solution contains 2 antibiotics, gramicidin and polymyxin B sulfate; the antihistamine, thenylpyramine hydrochloride; and a vasoconstrictor, paredrine hydrobromide. Good to excellent results were obtained in 76 of 94 cases, or 80%, after treatment with the solution of from two to five or ten days, reports Paul Hurwitz, M.D., of Chicago Medical School.

Am. J. Ophth. 35:1134-1138, 1952.

Equipment and technics for anesthesia in children must be adapted to the child's special needs.

Pediatric Anesthesia

ROSCOE L. WALL, M.D.
Wake Forest College, Winston-Salem, N. C.

SUSCEPTIBILITY to anoxia and asphyxia, idiosyncrasies to drugs, and psychic trauma make anesthesia more difficult for children than for adults.

Increased dead space and resistance to respiration have bad effects upon young patients. The margin of safety between good surgical anesthesia and cardiac arrest is narrow. Violations of fundamentals of good anesthetic practice quickly produce a grave situation.

Premedication helps to prevent such symptoms as increased fear, night terrors, dependency reactions, and temper tantrums that result from the emotional trauma of inhalation anesthesia induction. Psychologic preparation of each child is essential, but for an unusually apprehensive and emotionally unstable child, a hypnotic or narcotic or both may be needed.

Roscoe L. Wall, M.D., uses barbiturate alone as premedication for infants, and barbiturate combined with an opiate for older children. Demerol is given instead of morphine because of the decreased incidence of nausea and vomiting with the former. Scopolamine is used rather than atropine because of the superior effect on secretions and the psychic sedation. Pentothal or Surital, administered rectally, is currently preferred.

Induction is generally achieved with nitrous oxide or Vinethene and is smooth, rapid, and not too disagreeable for the young child.

For surgery about the head and neck, the anesthetist must be at the child's side. Intrathoracic operations require means for positive pressure and assistance or control of respiration. Open drop must be replaced by new technics.

Anoxia is the commonest cause of death. The child has a small exchange of air with each breath, and the muscles of respiration are frail. Tidal exchange under anesthesia is only a few cubic centimeters. Even a slight obstruction in the airway produces labored breathing and anoxia.

An endotracheal tube should be inserted without delay if an upper respiratory obstruction cannot be corrected at once. Serious complications are not entailed by intubation; hoarseness has occurred in a few instances.

Respiratory acidosis from faulty elimination of carbon dioxide can more seriously alter and affect physiology than the actual surgery. The accumulation of carbon dioxide is related to dead space

Why pediatric anesthesia is different. North Carolina M. J. 13:343-345, 1952.

in the gaseous system. Even the smallest face mask doubles the dead space unless a high flow of oxygen is maintained. Respiratory acidosis can be prevented by washing away the carbon dioxide and decreasing the dead space.

The smallest face mask possible is used and should be lifted often to dispel carbon dioxide. A mouth hook or nasopharyngeal tube delivering oxygen at 1 to 2 liters per minute is advisable.

Adult gas machines offer too much resistance for children. The to-and-fro filter is preferred to the circle type. More physiologically sound is the Ayre open T tube or the Stephen-Slater nonresisting, nonrebreathing valve apparatus. Both are used with an endotracheal tube.

Fluid therapy is most important in children's care. The younger the infant, the less able to withstand fluid imbalance. No anesthesia or surgery should be employed until metabolic acidosis is corrected. When appreciable blood loss is anticipated, a cannula should be set in a vein to replace blood as lost. A 1-cc. blood loss for an infant equals a 20-cc. loss for an adult.

Preoperative Use of D-Tubocurarine

JOHN D. FULLER, M.D.

A SLOWLY absorbed form of *d*-tubocurarine chloride given two hours before surgery reduces nervous tension and greatly relieves postoperative pain and discomfort resulting from muscle spasm.

John D. Fuller, M.D., of Santa Cruz County Hospital, Santa Cruz, Calif., advises use before all abdominal, rectal, and orthopedic procedures. In a series of 70 cases, treatment caused no local irritation, allergic reaction, or interference with respiration.

The compound, Tubadil, is obtained in a menstruum with melting point of 38° C. The standard dose is 2.5 cc., providing 62.5 mg. of *d*-tubocurarine chloride, for 70 kg. of body weight, or 0.892 mg. per kilogram. For rapid calculation, the patient's weight in pounds is multiplied by 0.016.

Morphine or other opiates combined with scopolamine may be given one hour before operation. If necessary, aqueous *d*-tubocurarine is also used, and postoperatively the slowly absorbed dose may be repeated. Action persists twenty-four to thirty-six hours.

Procedures requiring great relaxation, such as fractures, are often undertaken with only slight general analgesia or local anesthesia, an advantage for elderly patients. Usually only 2 doses of pain-relieving narcotics are requested during the first two days after surgery, in contrast to 4 when muscles are spastic.

Advantages of the preoperative use of slowly absorbed *d*-tubocurarine. Anesthesiology 13:370-373, 1952.

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From the Summary* "A case of gastrointestinal allergy caused by milk in one of a set of identical female triplets is reported. Elimination of milk from the diet of the allergic baby and substitution of soy milk caused a dramatic regression of symptoms, and weight gains which surpassed those of the non-allergic sisters."

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*Sobel, S. H.: Milk Allergy in a case of Triplets, *Clin. Med.*, August 1952.

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Early diagnosis of Parkinson's disease is facilitated by a simple head-dropping test for rigidity.

Test for Early Parkinsonism

ROBERT WARTENBERG, M.D.
University of California, San Francisco

THE head-dropping test, indicative of a lesion of the extrapyramidal system, is a valuable diagnostic sign in Parkinson's disease, even in very early cases.

The slow and insidious onset of Parkinson's syndrome may make diagnosis difficult in the first phases. Degenerative and nondegenerative diseases of the brain, multiple sclerosis, exophthalmic goiter, senile or familial tremor, arthritis, and psychoneurotic, neurasthenic, and hysteric states sometimes have to be considered.

The fundamental motor disturbances in Parkinson's syndrome result from tremor and rigidity. The tremor, although often the most conspicuous feature, is not always present, whereas rigidity is a constant phenomenon.

The rigidity starts in the neck and shoulder muscles, particularly in the flexors of the head, and leads to the sustained flexor position of the head, an early sign. As the disease advances, the rigidity remains more pronounced in the flexors of the head than in any other muscles.

The forward bending of the head may be so pronounced in advanced cases that the occiput does not touch the supporting surface on which a patient lies. The patient keeps his head up indefinitely, even when asked to relax.

Robert Wartenberg, M.D., believes that when results of the following test are normal, Parkinson's syndrome is not present:

The patient relaxes while lying on a padded surface with closed eyes. The subject's attention is diverted by conversation. The examiner's left hand is then placed under the patient's occiput, the dorsum resting on the table and the occiput lying in the examiner's palm. With the right hand the examiner unexpectedly and briskly lifts and drops the patient's head.

Normally the head falls back onto the examiner's left hand with force, like a dead weight. However, even in the earliest phase of Parkinson's syndrome, the head drops slowly and gently, with a reluctant, hesitant, and slow movement.

Complete relaxation of the patient is essential. When test results vary, the heaviest drop counts.

The test is of special importance in differentiating between Parkinson's syndrome and senile tremor, since the latter condition never entails rigidity. Besides parkinsonism, abnormal results are obtained in Wilson's disease, torsion dystonia, or other extrapyramidal lesions.

Head-dropping test. Brit. M. J. 4760:687-689, 1952.

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Medical Forum

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Diagnosis of Duodenal Diverticulum*

QUESTION: Do duodenal diverticula cause symptoms? Should such diverticula be removed?

Comment invited from
Bentley P. Colcock, M.D.
H. H. Bradshaw, M.D.
C. S. Larson, M.D.
Paul F. Fox, M.D.
Laurence S. Fallis, M.D.
Harold D. Caylor, M.D.

► TO THE EDITORS: I agree thoroughly with the statements made by Drs. Richard B. Cattell and Thomas J. Mudge. I believe that very few diverticula of the duodenum produce sufficient symptoms to warrant surgical removal. I would also like to emphasize that the operative procedure is never without risk.

In this connection a word of warning might be made relative to the freeing of these diverticula to determine their size, shape, and location as an aid in making the final decision for or against excision, as suggested by the authors. Even the mobilization of these diverticula may be associated with serious complications.

I recall a middle-aged man with cholelithiasis and a large diverticulum arising from the posterior surface of the second portion of the duodenum. After completing a cholecystectomy, the diverticulum was mobilized down to its neck. This necessitated dividing a thin film of pancreatic tissue which often surrounds diverticula arising in this location. Because the diverticulum was large and distended with food, it was thought that it might play a part in producing the distress in the right upper abdominal quadrant which had been present for many years, and the diverticulum was excised. Although the duodenal closure remained intact, the patient died four weeks after the operative procedure from acute hemorrhagic pancreatitis followed by complete pancreatic necrosis.

BENTLEY P. COLCOCK, M.D.
Boston

► TO THE EDITORS: So many diverticula are found accidentally, producing no symptoms, that one often wonders if diverticula ever produce symptoms. However, I am sure that there are rare instances in which ulceration in diverticula does produce symptoms and requires surgery; I have re-

(Continued on page 118)

*Modern Medicine, July 1, 1952, p. 79.

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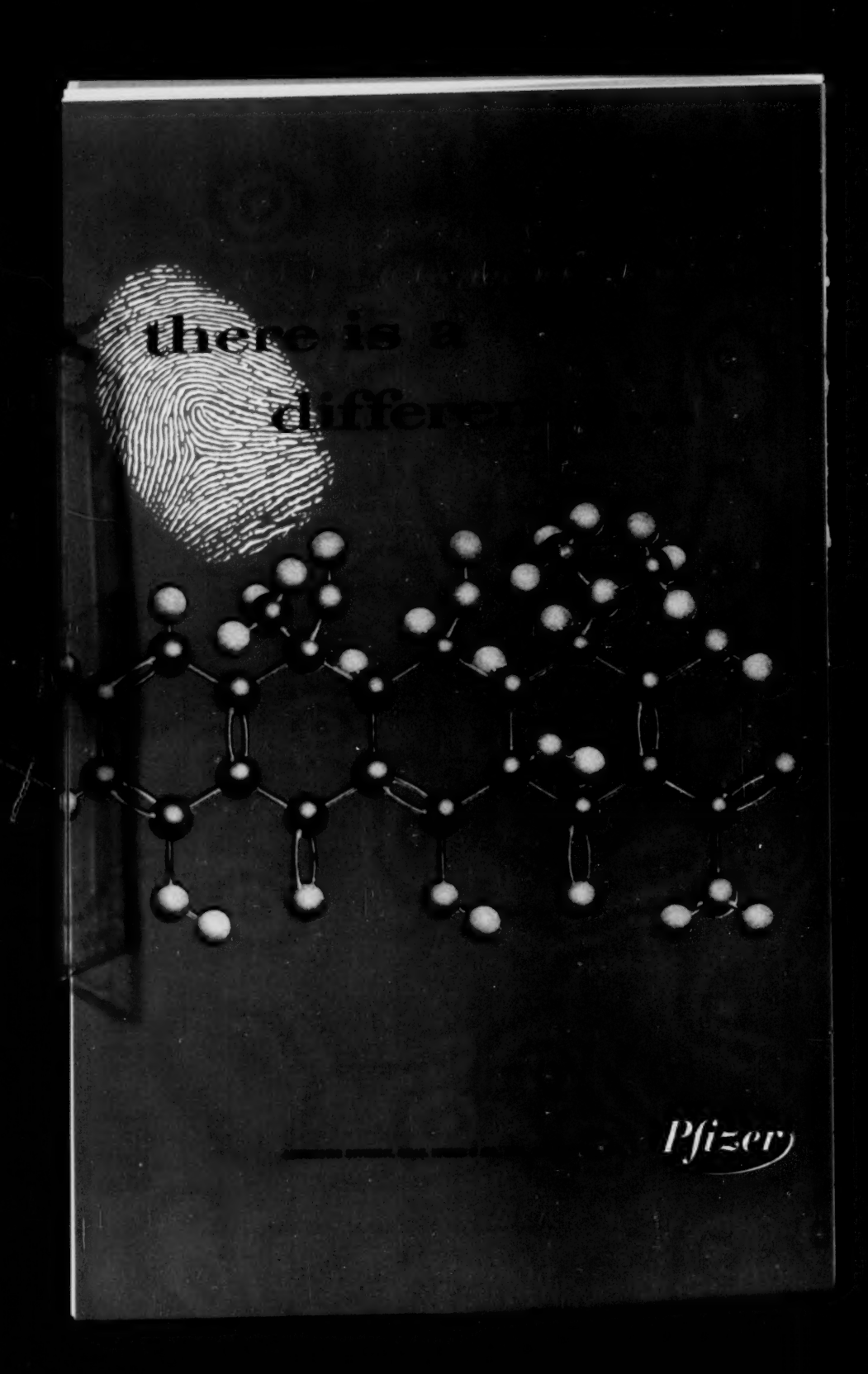
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moved such diverticula and found the ulcer.

Diverticula that retain the barium for a number of hours after the barium meal seem to warrant removal in people with upper abdominal discomfort and flatulence. I believe that these patients should be given a trial on an ulcer regime, but if symptoms persist, surgery is probably indicated.

The results of operative removal of diverticula are not really known because too few have been operated upon. Certainly the presence of a diverticulum does not often warrant any serious consideration of removal. On the other hand, I think that there are rare instances, as mentioned, in which surgery may well be beneficial.

H. H. BRADSHAW, M.D.
Winston-Salem, N. C.

► TO THE EDITORS: Several years ago, I reviewed 1,190 consecutive examinations of the upper gastrointestinal tract and found roentgenologic evidence of diverticula of the small intestine in approximately 5%, or 59 patients. Of these patients, 29 had diverticula of the small intestine without other associated roentgenologic findings. The follow-up study was completed on 16 of the 29 patients.

The findings are essentially as described by Drs. Cattell and Mudge. Although all these patients had some sort of abdominal complaint, the diverticula that showed four-hour barium retention or narrow necks usually seemed to produce more consistent symptoms—epigastric distress and flatulence.

Excellent results from treatment were reported in 1 patient who had gallbladder management. Good results were reported in 8 treated by bland diet, antispasmodics, and laxatives. Good results were also reported in 2 patients who had no treatment. Fair results were reported in 2 who were given bile salts and a regulated diet. Poor results were obtained in 3 patients also on a gallbladder and regulated diet regime. None of these patients had a surgical procedure for the diverticulum.

I am inclined to agree that "failure or incomplete relief by conservative measures after prolonged trial" should present the consideration of surgical removal. However, a patient who had a large and apparently symptomatic duodenal diverticulum without other associated roentgenologic findings was treated by surgical removal of the diverticulum about one year ago. This patient was not permanently relieved of symptoms.

There is no doubt that, in some of these patients, the discovery of diverticula is incidental to symptoms of neurotic origin. On the other hand, a number of cases of surgical removal of diverticula have been reported with excellent results. The decision of therapeutic management must be based on individual consideration, bearing in mind all the factors that might contribute to the patient's complaints.

C. S. LARSON, M.D.
Sioux Falls, S. D.

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antispasmin is the most potent of a large series of spasmolytic substances synthesized by Rosenmund and coworkers.[3] Outstandingly effective in the control of spasm associated with peptic ulcers, gastritis, colitis, cardiospasm, dysmenorrhea, and other conditions involving smooth muscle spasm.[2,4,5]

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1. Kulz, F. and Rosenmund, K.W., Klin. Wchnschr., *17*:344 (1938).
2. Weiss, S., Rev. Gastroenterol., *12*:436 (1945).
3. Kulz, F., Rosenmund, K.W., *et al.*, Ber. deut. chem. Gesellschaft, 72B; 19; 2161 (1939).
4. Lux, E., Klin. Wchnschr., *17*:346 (1938).
5. Ohr, A., Therapie d. Gegenwart, *80*:29 (1939).

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► TO THE EDITORS: Because most of my patients in whom duodenal diverticula were removed possessed associated disorders, it has been difficult to evaluate the results of surgical therapy. The associated lesions such as cholelithiasis, peptic ulcer, or esophageal hiatus hernia presented the chief indications for operation.

However, in each of 6 patients the presence of a large duodenal diverticulum was considered to be responsible for symptoms severe enough to indicate surgical removal of the diverticulum. No associated disorder was present. All recovered from the operation; 5 were relieved of symptoms and 1 patient whose recovery was eventually satisfactory had a pancreatic fistula which drained through the operative incision for two months.

My observations concerning duodenal diverticula are in complete agreement with those of Drs. Cattell and Mudge. Rarely are the symptoms serious enough to warrant removal of the diverticulum.

PAUL F. FOX, M.D.

Chicago

► TO THE EDITORS: In my experience, duodenal diverticula rarely cause symptoms. I have twice seen at operation inflammatory reaction in a small duodenal diverticulum which presumably was caused by ulceration in the diverticulum itself, since the patient presented all the signs and symptoms of intractable duodenal ulcer. Excision of the diverticulum under these conditions obviously is not feasible.

A large diverticulum with narrow neck communicating with the duodenum conceivably could produce symptoms from distention and stasis of duodenal content. Occasionally after a thorough course of medical treatment and exclusion of all other possible sources of difficulty in the upper abdomen, the problem of deciding whether the given diverticulum causes symptoms must be met.

Operation should not be undertaken lightly because of the potential danger of hemorrhage, pancreatic fistula, peritonitis, and so on. Many diverticula lend themselves to removal without difficulty, but a certain number, because of their location in the head of the pancreas, present surgical problems. Certainly the finding of duodenal diverticulum is not a clear indication for operative intervention. All other possible sources of symptoms, including functional factors, should be excluded before undertaking diverticulectomy.

LAURENCE S. FALLIS, M.D.

Detroit

► TO THE EDITORS: Duodenal diverticula occur in about the same proportion as Meckel's diverticula (about 2%). They almost always appear on the concave or pancreatic surface of the duodenum proximal to or near the ampulla of Vater. Most of them are accidentally found during a postmortem examination or during roentgenographic gastrointestinal studies, for they are usually symptomless.

If a duodenal diverticulum is

effective in 6 out of 7 cases of functional vomiting[1] . . . reduces gastrointestinal smooth muscle contractions physiologically . . . contains no antihistaminics, barbiturates, or other drugs . . . also useful in nausea of pregnancy, and for drug- or anesthetic-induced vomiting

1. Bradley, J. E., et al.: J. Pediat. 38:41, 1951; idem: Amer. Acad. Pediat., meeting Oct. 16, 1951.

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very large or has a narrow neck it may cause symptoms. These symptoms have no fixed pattern but a definite point of tenderness and pain unrelieved by food may be a significant clinical finding. Many times duodenal diverticula are associated with other gastrointestinal pathology—gallstones, duodenitis, or duodenal ulcer—which complicates the symptom pattern and may overshadow and obscure it.

Rarely is surgical removal of a duodenal diverticulum necessary; when contemplated, one should always make sure of the relationship of the choledochus to the diverticulum, for occasionally the common duct may empty into a duodenal diverticulum or near it.

HAROLD D. CAYLOR, M.D.
Bluffton, Ind.

Direct Vision Adenoidectomy*

QUESTION: What method is best for removal of adenoids?

Comment invited from
Rea E. Ashley, M.D.
Mervin C. Myerson, M.D.
Noah D. Fabricant, M.D.
Ernest Reeves, M.D.

► TO THE EDITORS: The removal of adenoid tissue from the nasopharynx under direct vision, described by Dr. Paul Guggenheim, is by no means a new procedure.

Over a period of years, rhinologists have described various technics and instruments for accomplishing this operation, but no technic or instrument has ever received unanimous acceptance.

In my opinion, a carefully performed adenoidectomy with the La Force adenotome followed by exploration of the nasopharynx with the index finger of the left hand is adequate and is the method of choice. Any lymphoid islands which cannot be reached with the adenotome can be removed by wiping the area with a piece of gauze wrapped around the finger.

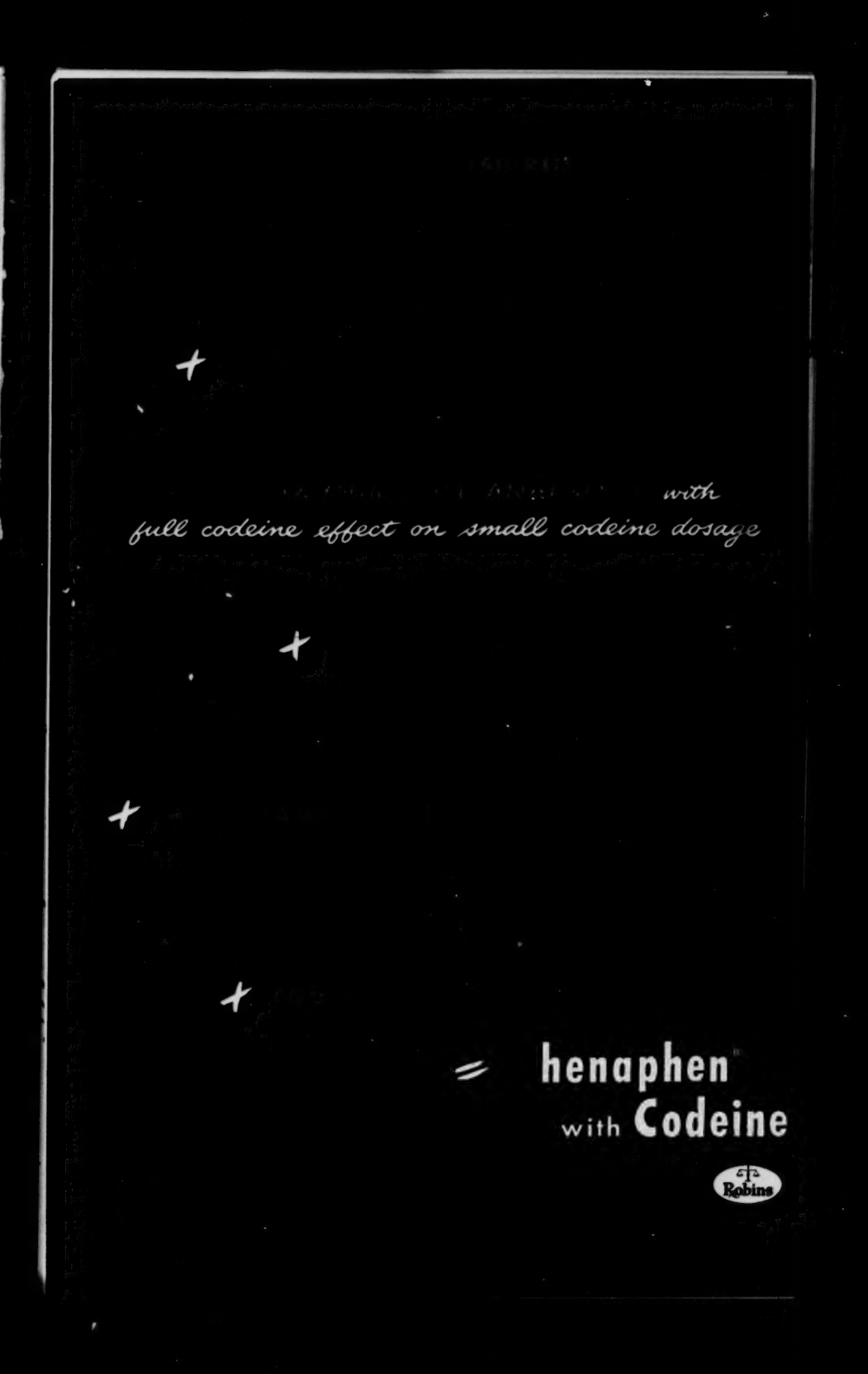
The importance of the removal of unobstructing lymphoid tissue from the nasopharynx has been very much overemphasized. It has never been satisfactorily proved that the presence of unobstructing lymphoid tissue in the nasopharynx, that is, tissue which does not interfere with nasal breathing and which does not interfere with the physiologic function of the eustachian tubes, has produced any permanent damage to hearing.

Many children go through puberty with masses of adenoid tissue in the nasopharynx without symptoms. These masses usually disappear at puberty without treatment, leaving no residual pathology.

It is a well-known fact that Lugol's solution and thyroid extract in proper doses often cause lymphoid tissue to disappear from the nasopharynx. Cortone in selected cases is a specific for this condition.

Recurrence of lymphoid tissue, even after radical removal, is inevitable in certain individuals. The tendency to form lymphoid tissue is an individual affair and is probably greatly influenced by the per-

*MODERN MEDICINE, June 15, 1952, p. 101.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son's general endocrine make-up. Treatment of endocrine imbalance often has satisfactory results.

Surgery and the employment of x-ray and radium in the nasopharynx in an effort to remove all lymphoid tissue from the nasopharynx frequently cause formation of much scar tissue and irreparable damage to the nasopharynx and should be reserved for the rare patient who fails to respond to more conservative therapy.

REA E. ASHLEY, M.D.
San Francisco

► TO THE EDITORS: Although it is the practice of most surgeons to make a digital examination before and immediately after adenoidectomy, it cannot be denied that visualization of the area is better. Retraction of the palate to afford visualization has been practiced for many years.

In 1900, White advocated the use of a catheter for elevating the soft palate. Thirteen years later Joseph C. Beck introduced his technic of elevating the palate by means of a soft rubber catheter passed through the nostrils. This same technic, slightly modified, was presented by Gidoll some years later. Kelly so modified the La Force adenotome that it permitted direct vision of the nasopharynx. At about the same time, Love introduced a soft palate retractor.

The instruments used for the removal of adenoid hypertrophy were quite numerous in the early days of this operation. Today most surgeons use a La Force adenotome or a modification and some type of curet.

Most laryngologists are not satisfied with the results of adenoidectomy. As Hill, Fetterolf, and others have pointed out, the operation is usually done hurriedly, immediately after tonsillectomy, frequently when the patient is emerging from the anesthesia. In addition, the instruments employed may not always be the most suitable.

As a result of experience and some thought on the subject, I have come to use a modification of the Goodwillie palate retractor to afford visualization of the nasopharynx. The instruments used are forceps, modifications of the Ruault instrument. Three sizes are used: the largest is employed first to remove as much of the lymphoid mass as possible; after this instrument the medium or smaller sized forceps is used as required.

The palate retractor is in position at all times while the adenoid removal is in progress. A great advantage of this type of retraction is the ability of the laryngologist to use a hemostat on a bleeding point and so control bleeding more directly and efficiently in a large majority of cases.

It is my firm belief that the cases of deafness in children which are treated with radium so frequently are just cases in which the adenoid tissue adjacent to the eustachian orifice has not been removed. Removal of this tissue is usually all that is required for restoration of hearing.

MERVIN C. MYERSON, M.D.
Beverly Hills, Calif.

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1. Angiology 3:1 (Feb.) 1952. 2. New York State J. Med. 52:2012-2014 (Aug. 15) 1952. 3. Angiology 3:16 (Feb.) 1952. 4. Angiology 3:30 (Feb.) 1952.

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► TO THE EDITORS: While the technic of adenoidectomy will vary with the individual operator, the aim obviously is to remove the adenoid tissue cleanly with a minimum of trauma and hemorrhage.

One of the major difficulties of the operation has been the restricted visibility of the field. Even an educated palpating finger has limitations, hence any device or technic for performing the operation under direct vision which insures a macroscopically clean operative site is highly desirable.

How useful direct vision adenoidectomy can be is indicated by the otolaryngologic cliché that adenoidectomy is one of the most incompletely performed operations in the domain of clinical practice.

NOAH D. FABRICANT, M.D.
Chicago

► TO THE EDITORS: An important phase of direct vision adenoidectomy is the removal of the hypertrophied salpingopalatine and salpingonasal folds. Both originate on the tubal ostium. The salpingonasal folds continue on the lateral and then on the upper border of the choanae and end at the midline above the posterior edge of the nasal septum. The salpingopalatine folds continue on the posterior wall of the soft palate, skirt the lower border of the choanae, and often end at the midline. Sometimes the folds continue down on the posterior surface of the palatopharyngeal arc.

For all practical purposes, the major portion of both folds lies on the anterior wall of both the rhinopharynx and upper part of the oropharynx. The 2 folds on each side often unite to form a continuous arc around the choanae, narrowing or obstructing their lumens.

To visualize these folds, the head of the anesthetized child should be moderately extended. Only the middle part of the palate and uvula should be retracted by the Love retractor. If the major part of the palate is engaged with the retractor, the instrument covers the folds. After performing the adenoidectomy, the folds are very easily removed by a specially devised tonsil punch in which the fixed part of the jaw of the instrument is angulated 165° to the shaft; the moving part of the jaw opens to nearly 90°. The field is cleared by suction for visualizing the folds, which are punched out carefully, step by step.

In most cases of so-called recurrent adenoids, we have found that the cause of the obstruction to free nasal breathing was not the regrowth of the adenoids but the hypertrophy of the folds, which were not removed at the original adenoidectomy. Direct vision adenoidectomy enables us to remove the hypertrophied plicae.

The second advantage is that it makes it possible to stop the bleeding with ligature. After we have removed the adenoids and hypertrophied folds, we may place a packing in the rhinopharynx and wait three or four minutes. The clotted blood should then be removed very gently and the bleed-

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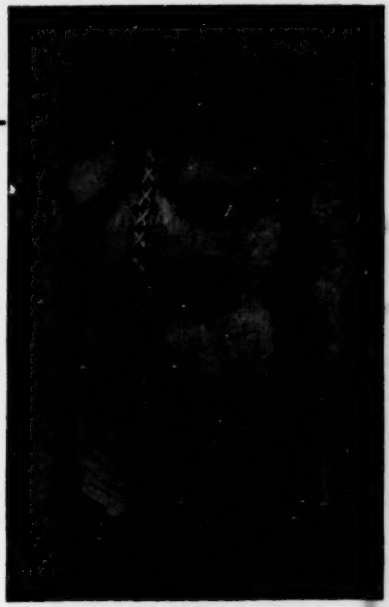

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ing points controlled by ligatures. The only step which demands practice is the location of the bleeding points. When the head of the supine, anesthetized child is extended, the most dependent part of the rhinopharynx is in the fornix; thus, the direction of the flow of blood is cephalad. For this reason the source of bleeding usually looks nearer to the upper end of the rhinopharynx than it actually is.

In most cases the bleeding stops if we apply a clamp on the mucosa of the lower edge of the wound just caudad and sagittal to the bleeding point. A 4- or 5-mm. wide mouse-tooth Allis clamp is the best instrument for this purpose. It does not damage the tissue and a superficial but nonetheless firm hold can be obtained with it. The mucosa is loose and very easily elevated. When the bleeding comes from the tougher connective tissue at the fornix, a few to-and-fro movements of the Allis clamp loosen the tissue sufficiently.

If elevation of one corner of the Allis clamp can be accomplished, the catgut slips under it easily. The surgeon must handle both the tie and the Allis clamp himself, since the assistant cannot see the instrument. The operator must apply the tie with his right hand and handle the Allis clamp with his left, requiring a one-hand ligature.

This procedure is often astonishingly easy and saves much trouble. It is certainly no more difficult than ligating a bleeding point in the tonsillar fossa.

ERNEST REEVES, M.D.
Passaic, N. J.

Indications for Tracheotomy*

QUESTION: When should tracheotomy be done?

Comment invited from
R. J. Strobel, M.D.
Dean H. Echols, M.D.
Edward S. Vanderhoof, M.D.
Robert E. Priest, M.D.
John T. Reynolds, M.D.

► TO THE EDITORS: Dr. Hans Von Leden has presented an excellent résumé of the indications for tracheotomy. It is a dramatic lifesaving procedure that is too often neglected. Because it is so often performed as an emergency procedure, it has gained an undeserved reputation as dangerous and difficult and frequently is thought of only as a last resort in a patient already nearly dead.

An elective tracheotomy performed in an orderly fashion and without haste is no more difficult or dangerous than a tonsillectomy. The problem is to determine which patients will benefit by a tracheotomy, and then do the operation before it becomes a vastly more difficult and dangerous emergency procedure.

There is little difficulty in recognizing the respiratory obstruction occurring in croup or laryngeal tumors, but physicians have long failed to recognize the insidious respiratory obstruction in such conditions as bulbar poliomyelitis or the deep coma following neurosurgical operations or cerebral vascular accidents. This obstruction occurs mainly as the result of ac-

*MODERN MEDICINE, July 1, 1952, p. 98.

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cumulation of secretions below the larynx. Because of the paralysis of the swallowing musculature, the abundant secretions in the pharynx spill over into the larynx and trachea. Because of the paralysis and coma, the patient is unable to cough these secretions up past the larynx. The secretions then serve to block off the bronchi and produce atelectasis and drowning of the lungs.

We are particularly interested at this time in the indications for tracheotomy in poliomyelitis. I feel that a prophylactic tracheotomy should be seriously considered in all cases of bulbar poliomyelitis in which the disease is paralyzing the throat muscles and appears to be progressing. A prophylactic tracheotomy is also of considerable value when a long siege in a respirator seems probable, since it is difficult for a patient with extensive paralysis of the chest muscles to cough effectively. A therapeutic tracheotomy should be performed whenever the patient is unable to keep the airway free of secretions, particularly when any respirator patient exhibits signs of bulbar paralysis or becomes restless and uncooperative. This usually indicates air hunger.

In conclusion, there are few patients who have died because of a tracheotomy. There are few unnecessary tracheotomies that have been done. There probably are many patients who have died because of delay or failure to do a tracheotomy.

R. J. STROBEL, M.D.
Bismarck, N. D.

► TO THE EDITORS: Generally, tracheotomy should be done especially early in cases of brain injury if the patient is comatose and is having respiratory embarrassment.

The reasons are: [1] The labored breathing required to overcome partial respiratory obstruction causes elevation of the intrathoracic venous pressure, which in turn is transmitted to the intracranial venous system, leading to venous congestion of the brain and elevation of the intracranial pressure. [2] Partial respiratory obstruction by retained secretions leads to elevation of the carbon-dioxide content of the arterial blood and to lowered oxygen content. Both these conditions produce vasodilatation of the cerebral vessels with eventual hemorrhagic tendency and edema of the brain. Cerebral swelling and increased intracranial pressure resulting from these several mechanisms eventually cause depression of the respiratory center of the medulla. This in turn leads to accentuation of the deficiencies in the airway and decreased aeration of the lungs, and a vicious cycle is fully established.

If tracheotomy is performed before anoxia of the brain has become serious, the period of coma will be shortened and the residual neurologic deficit will be lessened in case of survival. Cerebral damage from anoxia, manifested as deepening coma, decreasing pulse rate, and rising blood pressure, should not be attributed to the primary injury of the brain but must be attributed to inadequate respiratory exchange if such exists. Fur-

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References: 1. Buford, A.R.: J.A.M.A. 123:259 (1943)
2. Talesnik, M.B.: Amer. Jrl. Obst. & Gyn. 46:845 (1943)

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thermore, it is important not to wait for cyanosis before performing tracheotomy, since anoxia with resulting cerebral damage is usually present for many hours before cyanosis appears.

In summary, tracheotomy is superior to any other method of maintaining efficient aeration of the lungs in unconscious patients and should be performed promptly and unhesitantly in every patient unconscious from a head injury if it seems likely that the coma will persist too long for use of an endotracheal tube and if other methods of maintaining an adequate airway appear inefficient.

DEAN H. ECHOLS, M.D.
New Orleans

► TO THE EDITORS: Dr. Von Leden's discussion of tracheotomy is quite complete. One could dilate on the indications for prophylactic tracheotomy "after extensive neurosurgery or operations on the head and neck," but especially noteworthy, I believe, is the postthyroidectomy patient. Bleeding and edema may be severe postoperatively and, in case any respiratory difficulty becomes manifest, a tracheotomy set should be kept at the patient's bedside. Difficult intrathoracic goiters are usually less hazardous if a prophylactic tracheotomy is done.

Stridor from Ludwig's angina may require tracheotomy.

One must be alert to the possibility of laryngeal edema in patients burned about the face. Inhalation of hot smoke and flames may well result in severe edema of the larynx and trachea, and tracheotomy should not be delayed.

Patients swallowing lye or other strong chemical irritants may develop a rapid edema of the larynx and need to be tracheotomized.

I have seen occasions when foreign bodies in the trachea were difficult or impossible to remove through the oral route by laryngoscopy and were relatively easy to remove by laryngoscopy through a tracheotomy.

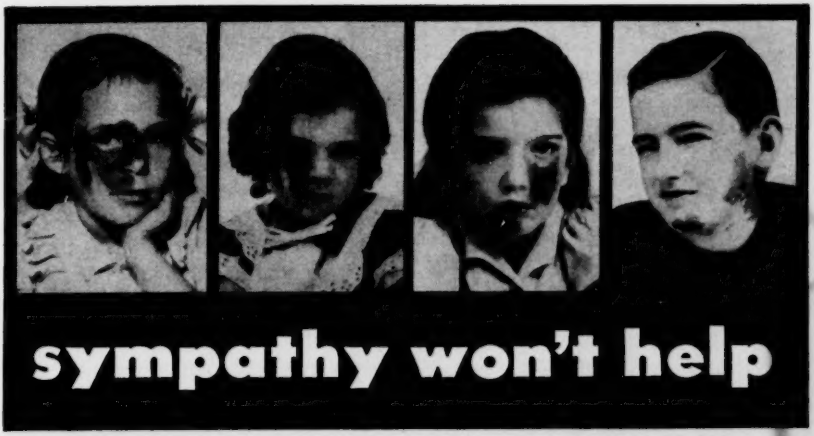
The last indication that comes to mind is that of the infant with laryngotracheobronchitis. I believe the judicious use of tracheotomy in these cases is ofttimes lifesaving.

EDWARD S. VANDERHOOF, M.D.
Salem, Ore.

► TO THE EDITORS: Tracheotomy should be done whenever a patient has a high obstruction of his airway of sufficient degree to restrict air intake dangerously. Indications based on this concept have been used for many years.

During the past few years other indications have been recognized. When the patient is not able to clear fluid secretion out of the lower air passages, a "by-pass" opening to allow frequent aspirations of the trachea and bronchi by the attendants may be of lifesaving value. One must keep in mind that one is only treating the obstruction of the airway and that, if the patient's general disease is of such degree and type that he cannot live, the tracheotomy will not help.

One sometimes discusses trache-



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otomy with physicians who have done a tracheotomy in a condition such as bulbar poliomyelitis and the patient has died. The physician had expected more results than the tracheotomy could deliver, and the parents or family of the deceased patient sometimes believe that the tracheotomy did more harm than good. This is a very distressing situation; the matter must be clearly understood by the patient's family before the procedure is carried out.

ROBERT E. PRIEST, M.D.
Minneapolis

► TO THE EDITORS: It seems to me that Dr. Von Leden has properly expressed the indications for tracheotomy. We feel that the only error that is likely to be made is in postponing tracheotomy too long.

Tracheotomy is an operation practically without risk, which assures access to removable secretions without exhausting the patient —or the bronchoscopic team—by repeated bronchoscopies. Furthermore, the mucus may be aspirated by a doctor, nurse, or trained nonmedical person.

Since, frequently, the accumulation of mucus is but a temporary affair, the time of the execution of the tracheotomy may well have saved many lives. Being practically without risk, it should always be thought of for a patient who is unable to raise sputum which accumulates in the tracheobronchial tree.

JOHN T. REYNOLDS, M.D.
Chicago

Nonvisualization of the Gallbladder*

QUESTION: What is the significance of nonvisualization of the gallbladder by cholecystography?

Comment invited from
Furman Wallace, M.D.
M. H. Poppel, M.D.
Adolph A. Walkling, M.D.
James R. Watson, M.D.

► TO THE EDITORS: Errors in the management of patients have occurred in the past because of faulty interpretation of cholecystograms, discussed by Drs. Francis Martin and Antonio G. Massimiano. The decision in regard to surgery is usually definite when stones are visualized. When the gallbladder fills and concentrates the dye and no stones are visualized, surgery is ruled out. Most errors have been made when roentgen study revealed nonfilling of the gallbladder and no opaque stones were present.

When such a report is obtained, the case should be carefully reevaluated clinically. With proper interpretation and exclusion, nonfilling of the gallbladder means obstruction of the cystic duct, usually by stone, and requires cholecystectomy. The decision rests on the clinical picture of acute or chronic cholecystitis plus a nonfilling gallbladder on cholecystogram.

Other causes of nonvisualization must be carefully eliminated. The administration of the tablets is reviewed, and vomiting of the tablets is ruled out. Any condition, such as pyloric obstruction or excessive

*MODERN MEDICINE, July 1, 1952, p. 89.

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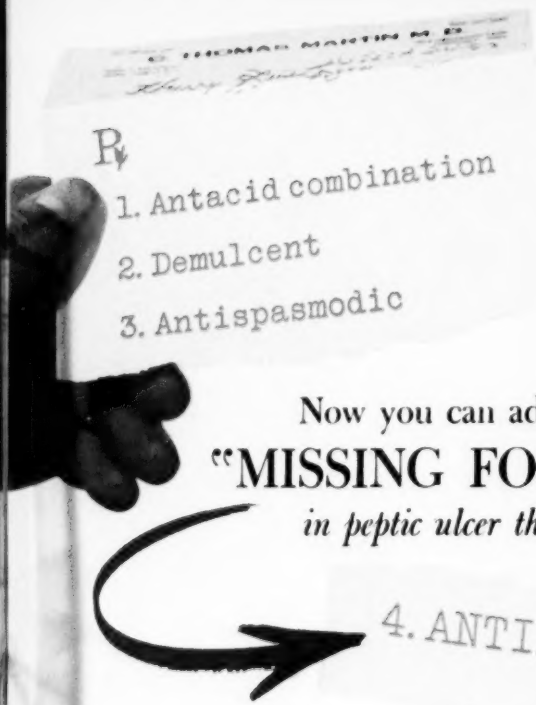

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1. Hufford, A. R., Rev. of Gastroenterology, 18:588, 1951
2. Miller, B. N., J. So. Carolina M. A., 48:1, 1952

diarrhea, which would interfere with the absorption should be ruled out, as well as liver disease which would impair the concentration of the dye in the bile. If jaundice is present, of either hepatic origin or common duct obstruction type, no filling of the gallbladder with a demonstrable amount of dye would be expected.

A review of 100 consecutive cholecystectomies reveals that calculi were present in 95 cases. The result was good in all instances except in 2 of the cases with no stones. There was no mortality. Among the patients investigated during that period who did not have surgery, none with overlooked gallstones has come to our attention.

Recapitulation of the preceding discussion suggests certain clinical principles:

1] Cholelithiasis requires cholecystectomy.
2] If no stones are present and the gallbladder is not completely obstructed, cholecystectomy should not be done.
3] With proper interpretation and exclusion, nonfilling of the gallbladder means obstruction of the cystic duct, in over 90% by stone, and requires cholecystectomy.

FURMAN WALLACE, M.D.

Spartanburg, S. C.

► TO THE EDITORS: Since oral cholecystography is a test of physiology, it calls for a physiologic conclusion. The roentgen report should read: "If all the conditions inherent in the examination have been fulfilled, nonvisualization of the gallbladder simply indicates *abnormal biliary physiology with or without biliary calculi.*"

Parenthetically, the majority of these abnormalities of biliary physiology will be found in the gallbladder; but it should be clearly emphasized that an automatic translation of the result of this test of physiology into a pathologic entity is entirely unwarranted because many conditions outside the gallbladder may be responsible for the same result—for example, diseases of the liver such as acute yellow atrophy.

M. H. POPPEL, M.D.

New York City

► TO THE EDITORS: We agree with the fundamental conclusions of Drs. Francis Martin and Antonio G. Massimiano. The interpretation and the result of cholecystography must always be considered with clinical findings. The pitfalls listed by the authors should be well kept in mind.

ADOLPH A. WALKLING, M.D.

Philadelphia

► TO THE EDITORS: Nonvisualization of the gallbladder by cholecystography is a very significant finding if the test is properly applied and correlated with the history of the patient's illness and the physical findings. Most errors in interpretation are due to failure of the clinician to appreciate the requirements for visualization of the gallbladder and to discount the value of the roentgenologist's report if

any one of these requirements is not fulfilled.

When the dye is given by mouth visualization requires [1] a normal absorptive mechanism in the gastrointestinal tract, [2] a competent circulation to transport the dye to the liver, [3] adequate liver function to remove the dye from the blood, and [4] ability of the mucosa of the gallbladder to concentrate the dye sufficiently to produce a shadow on the roentgenogram. Nonvisualization can result from a disturbance of any one of these mechanisms as from [1] vomiting or diarrhea after ingestion of the dye, [2] cardiac decompensation, [3] jaundice, and [4] severe damage to the mucosa of the gallbladder with or without obstruction of the cystic duct.

I do not believe that it is necessary to prepare the patient for cholecystography by either dietary or medicinal means. It is necessary to inquire as to whether the dye was retained in the gastrointestinal tract sufficiently long to be absorbed. In the presence of jaundice, cholecystography is of value only when and if the gallbladder visualizes. A report of nonvisualization under such circumstances should never be accepted as an indication of gallbladder disease.

It is common practice to repeat the cholecystogram when the necessary criteria have been met and the gallbladder does not visualize. Two reports of nonvisualization under such circumstances can be accepted without reservation as indicating a surgical disorder.

JAMES R. WATSON, M.D.
Pittsburgh

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Case MM-226

THE CLUE

ATTENDING M.D: The 40-year-old woman in this room has been ill for ten years. The symptoms have been dyspnea, fatigue, weight loss, and edema. She has rheumatic heart disease with severe mitral stenosis. She has been in the hospital now only three days, with chills, fever, and increasing drowsiness. There is ascites and roentgen evidence of several rounded masses of the lung almost entirely excluded to the left upper lung field. They are smooth and large and have been noted in roentgenograms over the past five years.

VISITING M.D: Have they increased in size or number?

ATTENDING M.D: No. When first seen they were thought due to metastatic disease, from either a hepatoma or hypernephroma.

VISITING M.D: We can discount cancer because of the duration of these shadows and their static appearance. How did the illness start?

ATTENDING M.D: Ten years ago she began to have exertional dyspnea and ankle edema. After five weeks of treatment—bed rest and digitalis—she recovered and continued working for five years.

VISITING M.D: Did she take digitalis during that period?

ATTENDING M.D: No. Symptoms returned, with slight orthopnea and cyanosis of the lips, and for the next four years she was in and out of hospitals, considered at several times to be critically ill. On one occasion, a thoracentesis was performed. She ate a salt-free diet and took digitalis, was almost bedridden the entire time. One year ago, orthopnea became severe and there were some joint symptoms. There was never any evidence of any great pulmonary congestion, but the liver became large and hard.

VISITING M.D: Was there no pulmonary edema?

ATTENDING M.D: Yes. Mercurial diuretics have become ineffective in the last month and she seems to be moribund now.

VISITING M.D: Let us examine the patient.

PART II

VISITING M.D: *(In hall, after examining patient)* This patient has two striking symptoms: the extreme emaciation and cachexia and the very hard liver. The ascites is striking. She is too sick for angiograms or catheteriza-

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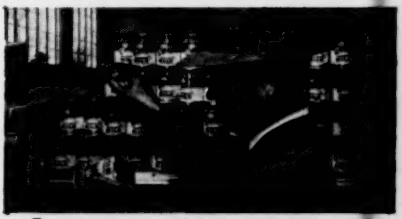

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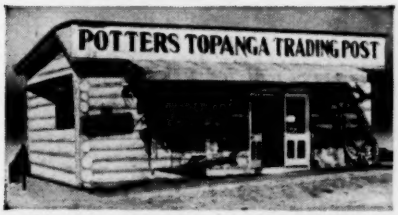

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tion. The shadows in the lung are certainly the clue to the disease, but I have never seen anything like this. Perhaps we'd better talk to the radiologist later. There are both diastolic and systolic murmurs. Auricular fibrillation has existed, according to the record, for five years. The waxing and waning of the patient's heart failure are certainly in keeping with the mitral rheumatic stenosis, but these alone do not explain the picture.

ATTENDING M.D: The heart sounds are loud and harsh, the rate irregular. I hear Grade III middiastolic and systolic murmurs over the apex, and Grade II pulmonary systolic murmur. A thrill is palpable at the fourth intercostal space, 10 cm. to the left of the sternal border.

VISITING M.D: There is a tremendous amount of laboratory study in this long hospital record. It seems you have carefully pursued all possible leads, but they give us no clue. The electrocardiogram shows a high degree of right ventricular strain.

ATTENDING M.D: Do you suppose this is in keeping with Lutembacher's syndrome?

VISITING M.D: It certainly is in keeping, by the combination of atrial septal defect and mitral stenosis, but this patient, remember, has never been seriously troubled with pulmonary edema and has had only one episode of hemoptysis. It seems to me there is too much blood in the pulmonary circuit; it has been there a long time and led to chronic right-sided heart failure . . .

ATTENDING M.D: What about unilateral distribution of the masses?

VISITING M.D: They have the appearance of distended tortuous vessels, venous rather than arterial. Moreover, the cylindric shape suggests that they are full of blood. If these vessels were bilateral I might be able to accept the possibility of Lutembacher's syndrome, but it does not explain the whole picture. Let's talk to the radiologist.

"How's the appetite?"

PART III

RADIOLOGIST: *(In the Radiologist's office)* The densities are most bizarre. The chest roentgenograms made periodically show no change. The heart is greatly enlarged, particularly the right ventricle, and there is also fullness in the left auricular area. The densities in the left upper lobe suggest an arteriovenous

(Continued on page 148)

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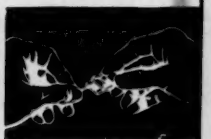

2 Hemolyze with hemolysis applicator until blood change is apparent.

3 Close chamber and insert in instrument.

4 Press switch and move lever until both green fields match.

American Optical

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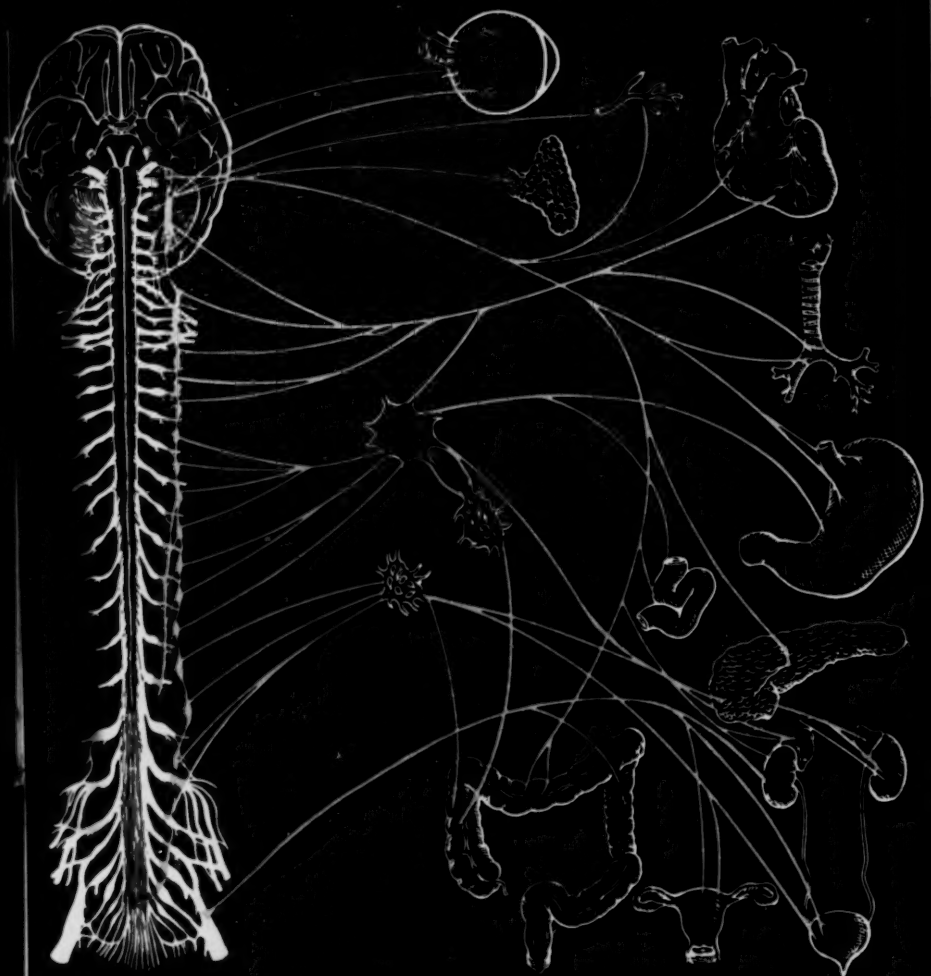
EXCESS NEURAL



STIMULATION over the parasympathetic subdivision plays an important role in such clinical conditions as peptic ulcer, certain forms of gastritis, pylorospasm, pancreatitis, spastic colon, bladder spasm and hyperhidrosis.

Banthine® Bromide (brand of methantheline bromide)—a true anticholinergic—inhibits parasympathetic stimuli, acting principally on the gastrointestinal and genitourinary systems. It exerts little or no influence on the normal cardiovascular system. Banthine is supplied in oral and parenteral dosage forms.

RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

malformation or perhaps an angioma.

VISITING M.D: This seems to me to be some sort of congenital vascular defect. I wonder if the left pulmonary artery might be partially or totally occluded to this segment of the lung. I doubt if there is any arteriovenous communication, for there is no continuous bruit, polycythemia, or deep cyanosis, which are characteristics of the syndrome. I think, putting the picture together, there is mitral stenosis with regurgitation and an atrial septal defect, probably an angioma with dilated venous channels in the left upper lobe.

RADIOLOGIST: There are 3 or 4 large round areas in the lung, the largest one measuring 6 cm. Electrokymograms show pulsation in these shadows. The gastrointestinal study and intravenous pyelograms are negative.

ATTENDING M.D: Studies of ascitic fluid did not help us.

PART IV

ATTENDING M.D: *(One week later at autopsy conference)* The patient died the day after we saw her, and an autopsy has given us the answer to our dilemma. There is a marked mitral stenosis but no intraauricular septal defect nor any congenital anomaly of the heart. Microscopic examination of the heart muscle shows Aschoff bodies. No appreciable edema of the lungs was found. There was marked dilatation of the pulmonary arteries on both sides, with a great deal of atherosclerosis and more dilatation of the pulmonary veins than one would suppose with mitral stenosis. In the left upper lobe of the lung are enormous varices of the pulmonary vein.

VISITING M.D: I doubt if there are more than half a dozen cases reported in the literature. This is a congenital anomaly and was undoubtedly present before the mitral stenosis, which increased the pressure in the left auricular and pulmonary veins and ballooned out the veins.

PATHOLOGIST: Almost all these rare cases are confined to the left upper lobe, for some inexplicable reason.

VISITING M.D: This massive reservoir of blood in the left lung seems to have protected her pulmonary circulation, perhaps by dampening out increases in pressure, for she never had acute recurring pulmonary edema or hemoptysis. The significant point is that most patients with mitral stenosis have recurring symptoms of that sort.

"There, now we know how tall the doctor is, let's see how tall you are."

A vagal blocking agent for peptic ulcer with LOW incidence of SIDE EFFECTS

PRANTAL* methylsulfate (diphenmethanil methylsulfate) is an effective anticholinergic agent for treatment of peptic ulcer. Pain, pyrosis, nausea, and other symptoms of this syndrome are rapidly relieved. Troublesome side effects seldom occur.

*T. M. Tablets 100 mg. q. 6 h.

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SCHERING

Modern Medicine to Honor 10 Doctors

readers urged to submit recommendations

PROGRESS in medicine is largely dependent upon the cumulative force of many small advances. Spectacular discoveries, such as penicillin and cortisone, are the exceptions. The Flemings, Henches, and Kendalls receive the acclaim that is their due, but often overlooked are the men doing significant and necessary work that does not lend itself to dramatic demonstration.

The Editors of *Modern Medicine* plan to give recognition to 10 physicians whose work has contributed to the advancement of medicine. Consideration will be given to individuals who have made a specific contribution during the past year and to those whose efforts have been cumulative over a period of years. Persons in teaching and research institutions as well as those in private practice will be eligible.

Dr. Alvarez, Editor-in-Chief of *Modern Medicine*, urges readers to send in nominations, using the coupon below. Additional nominations may be made on plain sheets of paper attached to the coupon.

The winners of the Modern Medicine Distinguished Achievement Awards will be announced in *Modern Medicine* January 1, 1952.

Walter C. Alvarez, M.D., Editor-in-Chief
Modern Medicine
84 South 10th Street
Minneapolis 3, Minn.

I recommend_____M.D.

of_____for

Modern Medicine's Award for Distinguished Achievement

in recognition of_____

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Nominator Nominator's Address

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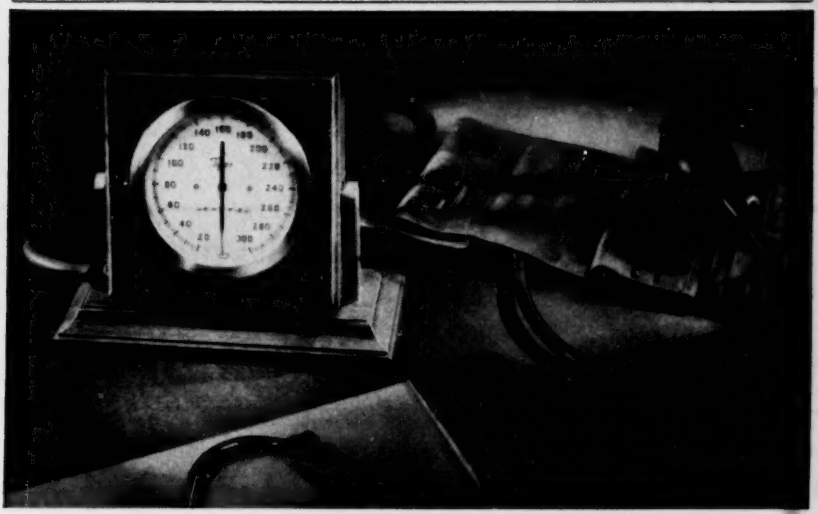


There's no law that says sphygs can't be beautiful, as well as accurate and dependable. That's what we had in mind when we designed this new Tycos Desk Aneroid. The case is solid walnut, hand rubbed to a velvet finish, with satin brass finished trim. The 3⅜" ivory-tinted dial is easy to read, and the easel adjusts to any desired angle. The long pointer magnifies slight variations in the pulse wave, gives you maximum sensitivity.

The movement of course, is the dependable, accurate Tycos movement. You can be sure it is accurate as long as the pointer returns within zero—an easy visual check. Our 10-year warranty states that it will remain accurate unless misused and, if thrown out of adjustment during the 10-year warranty period, we'll readjust the manometer only free, exclusive of replaced broken parts.

Exclusive hook cuff fits any size adult arm, goes on and off quickly and easily. Stainless steel ribs prevent ballooning.

See the new Tycos desk model aneroid sphyg at your surgical supply dealer. Price is **only $49.50.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

Here is what the clinicians are reporting about NEO-PENIL*... the new derivative of penicillin

. . . about its ability to concentrate in the lung:

". . . concentrations of this drug in the lungs after intramuscular injection are five to ten times higher than that of benzylpenicillin [penicillin G]."[1]

. . . about its ability to concentrate in sputum:

"Neo-Penil gave rise to significantly higher concentrations of penicillin in bronchial secretions than did procaine penicillin . . ."[2]

"Procaine penicillin, in the same dosage, produces considerably lower sputum levels or fails to appear at all."[3]

. . . about its effectiveness in bronchopulmonary disease†:

"Our own evidence would indicate that it is a more effective form of penicillin in patients with chronic pulmonary emphysema and bronchopulmonary infection."[4]

"This compound appeared to have a unique value in respiratory infections due to gram-positive bacteria."[1]

"Prompt reduction or elimination of pus from the sputum occurred in 75 per cent of fifty patients with chronic bronchitis and bronchiectasis, with a comparable clinical improvement."[1]

†For additional evidence, turn to page 42.

. . . about its ability to concentrate in other tissues:

". . . it is apparent that this compound possesses chemical or physical properties that bring about a higher concentration of penicillin than that brought about by procaine penicillin in: the erythrocytes and leucocytes of cats, in the lungs of dogs, and in bronchial secretions, spinal fluid, and umbilical cord blood of humans."[2]

. . . about its toxicity:

". . . the toxicity of the compound appears to be of the same order as that of procaine penicillin."[2]

Bibliography

1. Barach, A.L., et al.: Advances in the Treatment of Non-Tuberculous Pulmonary Disease, Bull. New York Acad. Med. *28*:353 (June) 1952.
2. Flippin, H.F.: 'Neo-Penil', a Penicillin Ester with Unusual Pharmacologic and Clinical Properties, report distributed at the Chicago Session of the American Medical Association (June) 1952.
3. Segal, M.S., et al.: Advances in the Management of the Patient with Intractable Bronchial Asthma, paper delivered before the National Tuberculosis Association and the American Trudeau Society, May 28, 1952, at Boston.
4. Segal, M.S., et al.: The Therapy of Chronic Pulmonary Emphysema, GP, in press.

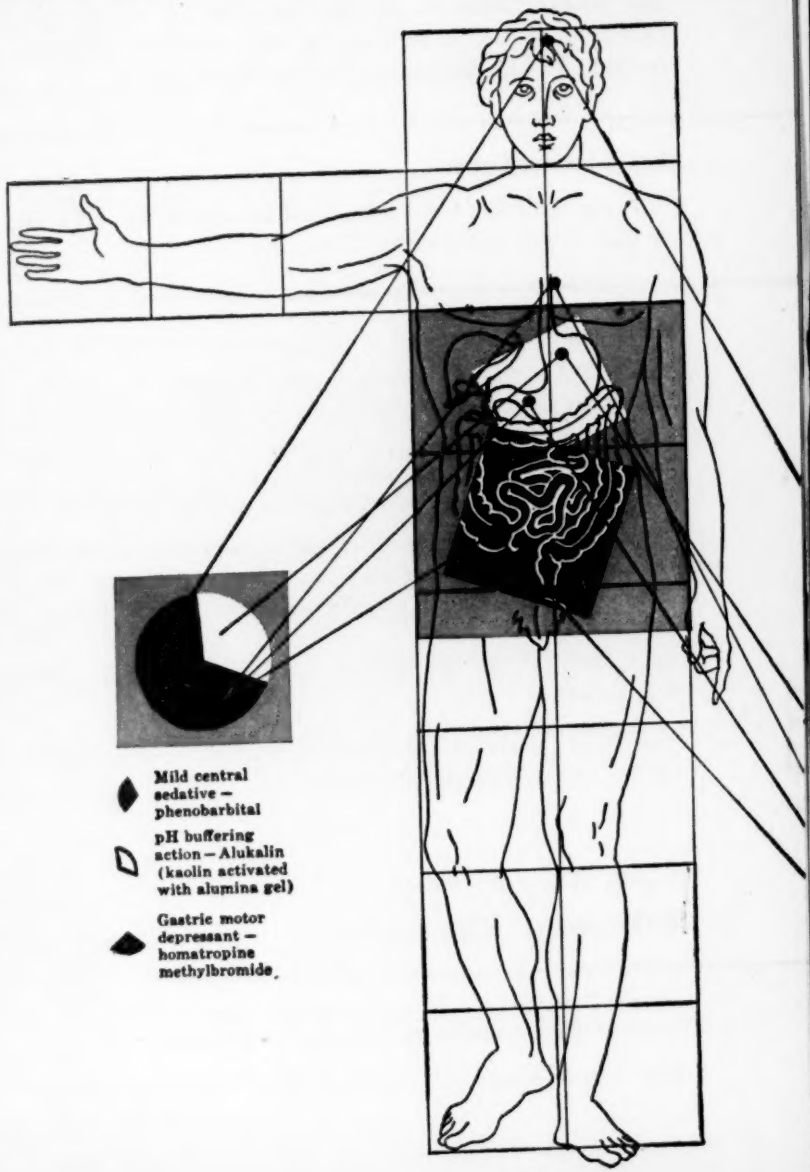
'Neo-Penil' is available at retail pharmacies, in single-dose, silicone-treated vials of 500,000 units.

Smith, Kline & French
Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off. for penethamate hydriodide, S.K.F. (penicillin G diethylaminoethyl ester hydriodide) Patent Applied For

FULL INFORMATION ACCOMPANIES EACH 'NEO-PENIL' VIAL.

SPECIALIZING *in* SPASM



Mild central sedative — phenobarbital

pH buffering action — Alukalin (kaolin activated with alumina gel)

Gastric motor depressant — homatropine methylbromide

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not atropine—
but homatropine methylbromide
for maximal safety

Lusyn has a particular affinity for the relief of such conditions as cardiospasm, pylorospasm and spastic colon because of the selective spasmolytic action of its homatropine methylbromide upon the gastrointestinal vagus. Far safer than atropine, homatropine methylbromide is *30 to 50 times less likely* to produce side-effects. The Alukalin in Lusyn coats the stomach with a fine soothing adsorbent film, and helps to reduce acidity by its buffering action—without producing alkalosis or acid rebound. The phenobarbital content exerts a welcome sedative influence, and reinforces the antispasmodic effect of homatropine methylbromide.

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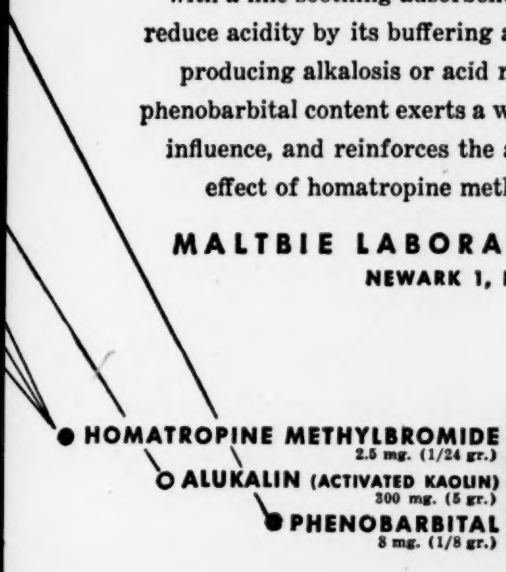

● HOMATROPINE METHYLBROMIDE
2.5 mg. (1/24 gr.)
○ ALUKALIN (ACTIVATED KAOLIN)
300 mg. (5 gr.)
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8 mg. (1/8 gr.)

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BASIC SCIENCE *Briefs*

Angiology

Estrogens and Atherogenesis

Estradiol benzoate (Progynon B) injected daily in 1-mg. doses inhibits coronary atherogenesis in cholesterol-fed cockerels, but fails to exert any prophylactic effect against aortic atherosclerosis. The difference in response indicates that the disease process does not follow the same biologic laws in the two vascular beds. The protection of the coronary vessels is associated with changes in the total cholesterol–lipid phosphorus ratio. Because human males, especially below the age of 40, are more frequently affected than females, Dr. R. Pick and associates of Michael Reese Hospital, Chicago, believe that estrogenic activity may function in women to restore phospholipid-cholesterol ratios to normal despite persistent hypercholesterolemia.

Circulation 6:276-280, 1952.

Nutrition

Choline and Edema

Fatty and cirrhotic livers, severe anemia, generalized edema, and death resulted when weanling rats were fed only enough protein to permit a body weight gain of 20 gm. in twelve to fifteen weeks. Addition of choline prevented the syndrome and maintained the hemoglobin at a level of 11 gm. per 100 cc. of blood while the hemoglobin of edematous animals dropped to 4.65 gm. in eight weeks. Drs. H. D. Alexander and R. W. Engel of the Alabama Polytechnic Institute, Auburn, postulate that choline is of greater importance than protein in preventing edema. Lack of liver-protecting and methionine-sparing actions of choline may prevent conversion of amino acids and formation of tissue and blood proteins.

J. Nutrition 47:361-373, 1952.

Microbiology

Escherichia Coli Mutant

The adaptive capacity of microorganisms is well demonstrated by the isolation of a cholesterol-metabolizing strain of *Escherichia coli* from the duodenal drainage of a patient with chronic cholecystitis. This organism, isolated by Drs. George L. Curran and Kenneth C. Brewster of the Mary Imogene Bassett Hospital, Cooperstown, N. Y., grows as well in saline and cholesterol as in meat broth with added cholesterol. Cell-free extracts and acetone-killed bacteria are capable of degrading labeled cholesterol to carbon dioxide, although at a slower rate than the live organism. A cholesterol-specific enzyme system may prove useful in reducing dietary intake of cholesterol.

Bull. Johns Hopkins Hosp. 91:68-70, 1952.

short REPORTS

Experimental Surgery

Musculofascial Repair

Fortisan fabric, a biologically inert brand of regenerated cellulose, successfully bridges abdominal wall defects complicating hernia repair. Drs. Joseph K. Narat and Lawrence G. Khedroo of Chicago find that the infiltration of fibrous tissue into the cloth and integration of the material into the adjacent tissues compares favorably with the results obtained with tantalum mesh, though the latter is unsurpassed when rigid support is essential. Fortisan is superior to stainless steel mesh in tolerance by tissues.

Ann. Surg. 136:272-277, 1952.

Radiology

Irradiation Hemorrhage

Except to combat initial shock and anoxic anemia, blood transfusion may actually be harmful in the abnormal bleeding syndrome of irradiation sickness. Anaphylactoid reactions are frequent in irradiated dogs. If these data apply to human beings, a patient bleeding from thrombocytopenia after irradiation injury, and with capillary damage and ulcerative alimentary lesions, should not be given blood replacement unless protamine sulfate or toluidine blue is available. Dr. J. Garrott Allen and associates of the University of Chicago find that transfused dogs receiving aureomycin are more apt to survive after irradiation than those not given the drug. The antibiotic without transfusion influences neither the death rate nor the hemorrhage.

Science 115:523-526, 1952.

Endocrinology

Cortisone in Hepatitis

Recovery from fulminant hepatitis with coma may follow therapy by cortisone with or without ACTH and antibiotics. The dosage and schedule varied for 2 patients, comatose more than forty-eight hours, treated by Drs. Hector Ducci and Ricardo Katz of the University of Chile, Santiago. One received a total of 3,525 mg. of cortisone intramuscularly and orally in seventeen days; the other, 3,800 mg. of cortisone, intramuscularly and orally, and 100 mg. of ACTH, 2,000 mg. of terramycin, and 1,100 mg. of aureomycin intravenously in nine days. In a third case, the patient died one hour after the first dose of cortisone; 3 persons with more chronic forms of the disease were not benefited and died. The adrenal hormone may possibly inhibit the inflammatory reaction in the liver, permitting development of reparative processes. Aureomycin delays hepatic necrosis and prevents cirrhosis.

Gastroenterology 21:357-374, 1952.

Freedom

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MALODOROUS

Vaginal

DISCHARGES

Assured

Chloro-Sul *vaginal suppositories*

In Vaginal and Cervical Infections, Post-Partum and Gynecological Surgery

[illegible]	2.0 gm.
Sulfacetamide	2.0 gm.
Boric Acid	0.1 gm.
Methyl Parahydroxybenzoate	0.1 gm.

Literature on Request.

The Columbus Pharmacal Co., Columbus 15, Ohio

Hematology

Cobalt and Anemia

Daily intraperitoneal injection of 0.07 mg. of cobaltous sulfate and 0.1 mg. of ferric chloride per 100 gm. of body weight corrects the hypophysectomy-induced anemia of rats. The 58% increase in total red cell volume is of the same magnitude in similarly injected normal animals. In the latter case, polycythemia develops; in the former, a restoration of normal values. Dr. J. F. Garcia and associates of the University of California, Berkeley, suggest that the pituitary is necessary for an erythropoietic response to hypoxia, but not for such an effect from cobalt.

Proc. Soc. Exper. Biol. & Med. 80:472-474, 1952.

Oncology

Breast Cancer Surveys

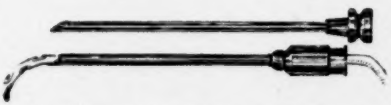
Surveys to determine the existence of a nursing factor for mammary cancer in human beings similar to the agent for mammary cancer in mice will require careful scrutiny. The mammary cancer agent in mice has been found to be transferred via the mother's milk and by blood or extracts of tissues from cancerous mice. Recent experiments have shown that males may transfer the agent to low cancer strain females at coitus although the transfer may not become apparent before the third litter. The female does not necessarily become cancerous at this time, but may pass the agent to progeny through milk. According to Dr. John J. Bittner of the University of Minnesota, Minneapolis, a comparable agent in human beings might even be transferred by kissing. Under such circumstances, genetic surveys would probably not demonstrate an agent for breast cancer in humans, even if such an agent is present and is involved only in the genesis of breast cancer.

Cancer Research 12:387-398, 1952.

Ascites

Abdominal Paracentesis

The potential dangers of shock, hemorrhage, and visceral damage attending use of a trocar for abdominal paracentesis are avoided in a method employed by Dr. Gerald J. Bronfin and associates at the Brooklyn Veterans Administration Hospital and the State University of New York, New York City. A thin-walled 14-gauge needle is inserted aseptically into the abdominal cavity at an anesthetized site between the lower rib margin and



the iliac crest. The solid stilet is removed and the needle is threaded with a 12-in. length of a 4-ft. piece of vinyl plastic tubing, 1.5 mm. in diameter. Twenty small holes in the terminal 3 in. permit drainage. The physiologically inert plastic is sterilized by autoclaving for twenty minutes at 250° F. and 15 lb. of pressure and is discarded after being used once. The drain has been left in place as long as twenty-one hours without discomfort.

Gastroenterology 21:426-428, 1952.

REFRACTORY CASES OF ANEMIA ARE A WARNING THAT MORE COMPLETE THERAPY IS NEEDED

Complete anemia therapy "...should include in adequate amounts all essential nutritive elements..."[1]

When the therapy is inadequate, the anemia is erroneously classified as "refractory." Investigation has revealed that so-called "refractory anemias" usually respond when all the necessary hemopoietic and nutritional factors are supplied. HEPTUNA PLUS contains Vitamin B_{12}, Ferrous Sulfate, Folic Acid, and Ascorbic Acid . . . for maximal hemoglobin synthesis and more effective hemopoiesis . . . PLUS other essential Vitamins, Minerals, and Trace Elements necessary for blood regeneration and for the maintenance of an optimal nutritive state.

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For Complete Anemia Therapy

ALL IN ONE  ***CAPSULE***

FERROUS SULFATE U.S.P.	4.5 gr.
VITAMIN B12	5.0 mcg.
FOLIC ACID	0.33 mg.
ASCORBIC ACID	50.0 mg.
COBALT	0.1 mg.
COPPER	1 mg.
MOLYBDENUM	0.2 mg.
CALCIUM	37.4 mg.
IODINE	0.05 mg.
MANGANESE	0.033 mg.
MAGNESIUM	2 mg.
PHOSPHORUS	29.0 mg.
POTASSIUM	1.7 mg.
ZINC	0.4 mg.
VITAMIN A	5,000 U. S. P. UNITS
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THIAMINE HYDROCHLORIDE	2 mg.
RIBOFLAVIN	2 mg.
PYRIDOXINE HYDROCHLORIDE	0.1 mg.
NIACINAMIDE	10 mg.
CALCIUM PANTOTHENATE	0.33 mg.

With other B-Complex Factors from Liver

1. McLester, J. S.: Nutrition and Diet in Health and Disease. Ed. 5 (Philadelphia: W. B. Saunders and Co.) 1949, p. 636.

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Physiology

Motor Functions of Colon

Surgical removal of Auerbach's plexus, involving as much as one-fourth of the intraperitoneal colon, does not result in intestinal obstruction in cats observed over a five- to six-month period. The relatively long relaxation time of smooth muscle and persistent circus movement of excitatory impulses might cause tetanic contraction and obstruction. Dr. Frederick W. Klinge of Los Angeles suggests that the permanent success of myotomy in pyloric stenosis and cardiospasm, and indications of benefit from the operation in several cases of Hirschsprung's disease, may depend on the scar's acting as an effective barrier to such activity. Incomplete denervation with retention of Meissner's plexus may have prevented the requisite reduction of the refractory period in the experimental studies.

Ann. Surg. 136:162-166, 1952.

Circulation

Vascular Action of Tryptamines

When injected into dogs, the hydroxylated tryptamines will usually cause initial transient quickening and deepening of respiration, fall in blood pressure, and bradycardia, followed by a sustained pressor effect. Serotonin, the vasoconstrictor in clotted blood, is a complex of equimolecular parts of creatinine, sulfuric acid, and a 5-hydroxy indole base. Dr. Irvine H. Page of the Cleveland Clinic Foundation, Cleveland, finds 5-hydroxytryptamine equal in pressor action to natural serotonin, 3 times as potent as 7-hydroxytryptamine, and 20 times as strong as tryptamine in a dosage range of 3 to 5 mg. of the parent compound and 100 to 300 μg. of the 5-base. Atropine given intravenously or cervical vagotomy abolishes the early hypotensive but not the early respiratory responses, and increases the pressor effect, especially in dogs with transected cords. In these animals and in intact cats the depressor action is chiefly vagal. All the drugs have a direct peripheral vasoconstrictor and reflex vasodilator component.

J. Pharmacol. & Exper. Therap. 105:58-73, 1952.

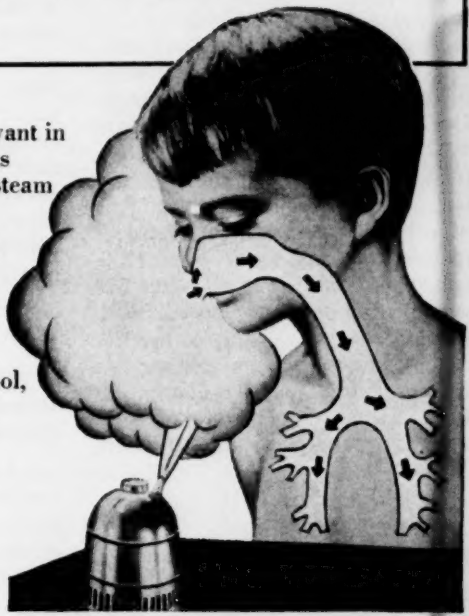
Obstetrics

Postpartum Urinary Retention

The prophylactic use of Urecholine, the urethane of beta methylcholine chloride, reduced the incidence of urinary retention from a reported 13.8% to 2.3% in 129 postpartum patients at Mercy Hospital, Baltimore, reports Dr. A. R. Fleming. An oral dose of 15 to 30 mg., usually 20 mg., is given immediately and every four to six hours during the first twenty-four hours, or 2.5 to 5 mg. is administered subcutaneously initially and again in thirty minutes if necessary. The drug is a parasympathetic stimulant differing from the physostigmine group by acting on the receptor cells of smooth muscle rather than through inhibition of cholinesterase. Side reactions, which include slow pulse, flushing, perspiring, and faintness, are few.

Am. J. Obst. & Gynec. 64:134-140, 1952.

How the efficacy of **steam therapy** *may be increased with* **Vicks VapoRub**



When employed as an adjuvant in the inhalation of steam, Vicks VapoRub actually makes the steam treatment more effective.

In combating dryness and in increasing the soothing action on irritated mucosa, Vicks VapoRub provides essential volatilizing ingredients, including menthol, thymol, camphor, and oil of eucalyptus.

And Vicks VapoRub is now on hand in almost every home, ready for instant use.

So consider Vicks VapoRub the next time steam therapy is indicated.

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We will be happy to send you a generous supply of distribution samples. Just fill in this handy coupon.

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Please send me, without obligation, a supply of distribution samples of Vicks VapoRub.

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Hematology

Anticlotting Drug

Treburon, a synthetic anticoagulant, is the sodium salt of sulfated polygalacturonic acid methyl ester methyl glycoside. Potency is one-third to one-fourth that of sodium heparin, and action is similar. Intravenous doses of 200 mg. are effective in thirty minutes, and clotting time is at least twice normal three hours after injection, observe Drs. Donald A. Scholz and Nelson W. Barker. Treatment of 15 patients at the Mayo Clinic, Rochester, Minn., confirmed experience of other workers. Slight transient nausea and tingling of fingers resulted in 1 case, but no other adverse reactions developed. Sublingual doses were ineffectual. A 50-mg. injection of protamine sulfate partly or entirely neutralized treburon in half an hour.

Proc. Staff Meet., Mayo Clin. 27:332-335, 1952.

Treatment

Phenylbutazone for Gout

Patients with gout or various rheumatic disorders may be benefited by phenylbutazone, a pyrazole derivative that does not act through the pituitary-adrenal system. When given to 140 patients, phenylbutazone (Butazolidin) produced symptomatic improvement, that was accompanied by a lowering of serum uric acid, in all 48 cases of gout; temporary suppressive effects were noted in most of the 83 patients with rheumatoid arthritis, ankylosing spondylitis, arthritis with psoriasis or degenerative joint disease, osteoarthritis, osteoporosis, or peritendinitis. Dr. William C. Kuzell and associates of Stanford University, San Francisco, believe phenylbutazone to be superior to colchicine in most cases of gout. In some patients with rheumatic disorders, phenylbutazone is useful in reducing maintenance doses of cortisone. Toxic manifestations were observed in 47 of the patients, with 17 requiring discontinuance of therapy. Nausea, edema, vertigo, anemia, and morbilliform rash are the most frequent toxic effects, and reactivation of peptic ulcer, seen in 4 patients, the most deleterious reaction produced by phenylbutazone.

J.A.M.A. 149:729-734, 1952.

Gynecology

Hysterectomy and Ovarian Function

Since the human uterus is not necessary for a natural hormonal cycle, patients' accounts of climacteric symptoms after hysterectomy are probably chiefly mental disturbances caused by disappearance of menstruation. To prevent mental distress, patients should be advised that failure to menstruate in such cases is not an indication of the menopause. Ovarian function as determined by basal temperature measurements was unaffected in most of the 21 women observed by Dr. Herbert Fredrikson of Sahlgrenska Sjukhuset, at Gothenburg, Sweden, for as long as four years after subtotal uterine excision.

Acta obst. & gynec. Scandinav. 31:376-386, 1952.

Only on your Rx . . .

When prescribing Ergoapiol (Smith) with Savin for your gynecologic patients, you have the assurance that it can be obtained only on a written prescription, since this is the only manner in which this ethical preparation can be legally dispensed by the pharmacist. The dispensing of this **uterine tonic,** time-tested ERGOAPIOL (Smith) WITH SAVIN —only on your prescription—serves the best interests of physician and patient.

INDICATIONS: Amenorrhea, Dysmenorrhea, Menorrhagia, Metrorrhagia, and to aid involution of the postpartum uterus.

GENERAL DOSAGE: One to two capsules, three to four times daily—as indications warrant.

In ethical packages of 20 capsules each, bearing no directions.

ERGOAPIOL (SMITH) WITH SAVIN

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Ethical protective mark, M.H.S., visible only when capsule is cut in half at seam.

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Surgery

Effects of Healing Agents

Epithelial outgrowth in hanging-drop cultures of skin is due mainly to the complex colloids of the serum. Nutritional imbalances, especially fat deficiency, may lower the growth-promoting activity considerably. The capacity of individual skins to respond is more variable than the influence of different media, a fact of clinical importance. Blood cells fragmented by ultrasonic waves activate proliferation only slightly, hemoglobin and sanguinin not at all. Dr. M. Allgöwer of Basel, Switzerland, and associates observed no appreciable stimulatory effect from D-pantothenyl alcohol (Panthenol), chlorophyll "a" (Chloresium), l-ascorbic acid, or scarlet red.

Ann. Surg. 135:923-937, 1952.

Oncology

Tumor Chemotherapy

Some diamino phenyl pyrimidines have been found effective in reducing total leukocyte counts in mice with advanced transplantable leukemia. The compounds were originally synthesized as antimalarials. Previous workers have demonstrated the antitumor activity of these pyrimidine derivatives in mouse sarcoma. According to Dr. Joseph H. Burchenal and associates of the Sloan-Kettering Institute for Cancer Research, New York City, a dose of 10 mg. per kilogram of 2,4-diamino-5-(3',4'-dichlorophenyl)-6-methylpyrimidine produces a rapid fall in total leukocyte count and prolongs survival time of leukemic mice. The 5-phenyl substituent halogenated in the 3' and 4' positions and compounds with a methyl or ethyl group in the 6 position of the pyrimidine ring seem to be the important groups for antitumor therapy. The lethal effect of the 10-mg. per kilogram dose is counteracted by 30 mg. per kilogram of citrovorum factor. A 30-mg. per kilogram dose of pteroylglutamic acid exhibits no antitoxic effect. These results indicate that the diamino phenyl pyrimidines act on the metabolic pathway of folic acid in a similar manner, but at a different point than A-methopterin.

Cancer Research 12:251, 1952.

Immunology

Resistance to Tuberculosis

The prevalence of alveolar phagocytes able to destroy tubercle bacilli determines native resistance to infection. This basic factor is increased by BCG vaccination and diminished by cortisone. Dr. Max B. Lurie and associates of the University of Pennsylvania, Philadelphia, observed that human type of bacilli in lungs of rabbits is not destroyed for months after infection. But organisms inhaled by animals with natural resistance are eliminated in a few weeks. Allergic sensitivity and antibodies develop more rapidly in resistant than in susceptible animals. The number of human type of bacilli necessary to produce a single tubercle in rabbits is greatly reduced by cortisone and augmented by BCG immunization.

Federation Proc. 11:475, 1952.

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Your patients who "can't seem to relax"—who feel tense and anxious yet have no organic basis for their disturbance—may be promptly relieved by prescribing Oranixon, the first Council-accepted brand of mephenesin. Oranixon will relax these patients without "doping" them. You will find that two or three 500-mg tablets daily usually suffice to keep these patients pleasantly and comfortably at ease. Try Oranixon as well for some of your patients whose mentality and motor functions are "imprisoned" by hyperactive reflexes. Oranixon is available in 250-mg and 500-mg oral tablets (specially compounded for rapid disintegration and full activity) and in an elixir containing 400 mg of mephenesin per teaspoonful.

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Oncology

Sarcoma Labeling

Selective uptake of radioactive sulfur by chondrosarcomas may have diagnostic value. Drs. Raymond G. Gottschalk and Herbert C. Allen, Jr., of the Veterans Administration Hospital and Baylor University, Houston, report that 2 patients with chondrosarcomas were given respectively 6.7 and 2.9 millicuries of S-35 as sodium sulfate a few days before operation. When surgery was performed, the highest concentrations of the isotope were found in the tumors, with progressively less in cartilage, bone marrow, and other tissues. Greatest amounts appeared in the portions actively growing and containing abundant ground substance. While the ionization is limited to these areas, the large doses required to damage the aberrant cells might be harmful to normal cartilage.

Proc. Soc. Exper. Biol. & Med. 80:334-339, 1952.

Pharmacology

Broad Spectrum Antibiotic

Erythromycin, which is produced by a strain of *Streptomyces erythreus* found in the Philippines, is reported by Dr. J. M. McGuire and associates of Indianapolis. The antibiotic is active against large viruses and rickettsiae, besides having other broad antibacterial properties. Preliminary studies of erythromycin, known as Ilotycin, also suggest activity against intestinal protozoans, spirochetes, and oxyurids. Significant antibacterial activity is found for pathogenic gram-positive bacteria and includes the *Mycobacteria.* Important groups of the gram-negative bacteria such as the *Neisseria, Hemophilus,* and *Brucella* are sensitive to erythromycin. Trials for patients with pneumococcic and with beta hemolytic streptococcic infections have given encouraging results. Erythromycin is practically nontoxic. A single oral dose reaches a peak concentration in the blood one hour after ingestion and is detectable for about eight hours.

Antibiot. & Chemother. 2:281-283, 1952.

Enzymes

Lysis of Blood Clots

Streptococcal fibrinolytic enzymes may be used to lyse clotted blood obstructing external biliary drainage after cholecystectomy. On the sixth day after cholecystectomy, Dr. Alfred St. James and associates of St. Vincent's Hospital and New York University, New York City, threaded a clogged T tube with an 18-gauge polyethylene catheter and instituted continuous drip, 2 drops per minute, of isotonic sodium chloride solution containing 400,000 units of streptokinase and 100,000 units of streptodornase per liter. By the end of ninety-six hours the icterus had decreased and the return fluid contained clear bile. Acute urinary retention secondary to clots in the bladder after suprapubic prostatectomy was relieved in three to four hours by the same preparation. For complete evacuation of the bladder, mechanical irrigation was necessary.

Arch. Surg. 64:741-744, 1952.

Question:

WHAT MAKES Biphetacel SUPERIOR?

Answer:

THE *EXCLUSIVE* 1:3 L/D RATIO!

"IN CURBING APPETITE and causing weight loss, a combination of monobasic amphetamine phosphate containing a ratio of 1:3 of levo to dextro amphetamine (as found exclusively in Biphetacel) is more effective than the same amount of amphetamine contained in the racemic form where the ratio is 1:1 l/d . . ."*

Because of its exclusive 1:3 l/d ratio, Biphetacel curbs appetite more effectively, without nausea or nervousness, in both vagotonic or "sluggish" and sympathicotonic or "high strung" patients. In addition, it preserves an "enough-to-eat" feeling by decreasing gastric motility and prolonging emptying time of stomach, and assures normal elimination by supplying evenly distributed, non-nutritive, "no clump" bulk. Small dosage means low treatment cost.

Each Biphetacel tablet contains the preferred 1:3 l/d ratio as provided by Racemic Amphetamine Phosphate Monobasic 5 mg. and Dextro Amphetamine Phosphate Monobasic 5 mg.; Metropine® (methyl atropine nitrate, Strasenburgh) 1 mg., Sodium Carboxymethylcellulose 200 mg.

Dosage: 1 tablet ½ hour before meals, three times daily, for the vagotonic type. Increase this dose, if necessary, to achieve the desired clinical results. ½ tablet ½ hour before meals, three times daily, for one week for the sympathicotonic type. If no signs of intolerance develop, increase to 1 tablet. Supplied in bottles of 100 and 1000 scored tablets.

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provides, per tablespoonful, sodium carboxymethyl-cellulose (0.36 Gm.) in its most active, hydrated form with magnesium hydroxide (0.6 Gm.) in less-than-laxative dosage, to maintain hydration of the gel by osmosis.

Microbiology

Antibiotics and Rickettsiae

Aureomycin and terramycin have rickettsicidal action in vitro. Drs. Adele Karp and John C. Snyder of Harvard University, Boston, observe that the two antibiotics in concentrations of 100 to 300 μg. per cubic centimeter greatly inhibit the respiration of purified murine and epidemic typhus rickettsiae in vitro. Chloramphenicol in concentrations up to 300 μg. per cubic centimeter produces only slight inhibition. Suppression of respiration is correlated with a decrease in the number of viable rickettsiae as determined by toxicity and infectivity in white mice.

Proc. Soc. Exper. Biol. & Med. 79:216-219, 1952.

Poliomyelitis

Substitute for Hot Packs

Muscle pain and spasm of acute anterior poliomyelitis may be relieved by Priscoline. At the Philadelphia Hospital for Contagious Diseases, 71 patients with severe symptoms of pain and muscle spasm have been treated with this drug; 45 of the patients obtained at least partial relief of symptoms; 19 of these had complete relief. Drs. A. C. LaBoccetta and K. E. Dawson prefer to give the initial dose of Priscoline intramuscularly. Patients aged 1 to 15 years receive 25 to 50 mg. every four hours. The exact dose is determined for each patient by increasing the initial amount 12.5 mg. at each four-hour interval until symptoms are relieved or untoward reactions appear. When response is good, definite relief occurs fifteen to thirty minutes after injection. Older patients receive individualized doses of 50 to 75 mg. intramuscularly. Oral administration is used when intramuscular administration is not tolerated. The oral dose is at least 50% more than the intramuscular. Medication is continued until symptoms are abated or disappear. Nausea or emesis results from Priscoline in 24% of the patients. Flushing, diaphoresis, chills, diarrhea, and palpitation are also observed. Urticaria is an infrequent allergic manifestation. If the muscle pain of poliomyelitis is the result of ischemia from angiospasm, the mechanism of Priscoline action may be ascribed to histamine-like vasodilatation. External heat would produce relief in a similar manner. Since thermotherapy has many obvious disadvantages, a trial with Priscoline is justifiable.

J.A.M.A. 148:1083-1085, 1952.

Public Health

Diabetes Detection Drive

The annual nationwide screening program, the Fifth Diabetes Detection Drive, to help find the estimated 1,000,000 Americans who have diabetes and do not know it, will be renewed with Diabetes Week, November 16 to 22, 1952. The campaign will be spearheaded by more than 700 committees on diabetes of county and state medical societies and 31 local diabetes associations, with the assistance of civic, business, and community organizations.

In Hypertension . . .

FIRST: Relieve The Tension . . . Raise The Spirit

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Relief of subjective symptoms may completely rehabilitate a hypertensive patient.

Mere lowering of blood pressure without relief of symptoms serves no such purpose. Thus, while not necessarily without some benefit, lowering of blood pressure, *per se*, is not considered the prime objective in relief of hypertension. (Am. J. Med., *4*:875, 1948.)

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Samples and literature on request.

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Diagnosis

Bone Marrow and Carcinoma

Examination of the bone marrow, which can be made in one hour or less, should be done for all prostatic cancer patients being considered for radical surgery. Cells metastatic from carcinoma of the prostate were found in routine sternal and iliac marrow aspirations in 33% of 57 cases diagnosed at the State University of Iowa, Iowa City. Approximately 9% had widespread skeletal dissemination without other evidence than the positive result of puncture. Dr. James A. Clifton and associates found no correlation between the grade of malignancy of the primary tumor and the occurrence of metastases. Although not diagnostic, the alkaline phosphatase test was the most useful of the adjunctive laboratory studies.

Am. J. M. Sc. 224:121-130, 1952.

Tuberculosis

Cortisone and Streptomycin

When albino rats with human-strain tuberculosis are treated with cortisone, the severity of the disease increases more than in infected animals not given the hormone. When streptomycin and cortisone are given, the progress of the disease is comparable to that in untreated infected rats. Streptomycin given alone diminishes the infection. In making these determinations, Dr. Martin M. Cummings and associates of the Veterans Administration Hospital and Emory University, Atlanta, used albino rats because these animals are resistant to tuberculous infection. At the end of sixty days, 8 of 10 infected animals receiving cortisone had died; all of those which did not receive cortisone or received cortisone and streptomycin were living. Those not given cortisone had each lost about 50 gm. in weight; the ones receiving streptomycin had each gained about 75 gm.

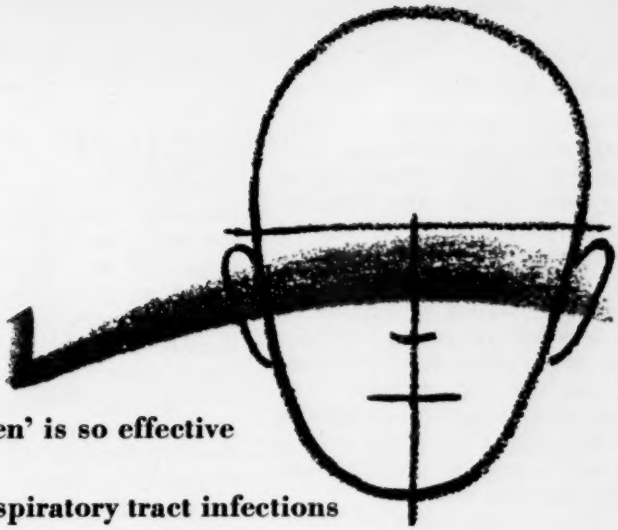
Am. Rev. Tuberc. 65:596-602, 1952.

Allergy

Intranasal Cortisone

Most patients with allergic rhinitis, possibly all in the acute phase, may obtain relief from submucosal injection of cortisone into the inferior turbinate. Drs. John W. Wall and Norman Shure of the College of Medical Evangelists and the Los Angeles County Hospital treat opposite sides of the nose at three-day intervals with 0.1 to 0.2 cc. of a suspension, 2.5 to 5 mg. of the drug, until the desired effect is achieved. An average of four doses produced improvement lasting from six weeks to ten months for 42 of 52 persons but benefit was obtained in only 1 of 13 cases of vasomotor rhinitis. Greater amounts caused severe constitutional reactions. The hormone may alter or interfere with the antigen-antibody relationship, possibly in the shock tissue. A series of treatments that were given in late August, coincident with pollination of giant and dwarf ragweeds, might conceivably keep the subject symptom-free during the entire season.

Arch. Otolaryng. 56:172-176, 1952.



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Par-Pen*

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'Par-Pen' contains 5000 units of crystalline potassium penicillin G per cc.; 'Paredrine' Hydrobromide (hydroxyamphetamine hydrobromide, S.K.F.), 1%; in a specially buffered isotonic aqueous solution. Packaged in ½ fl. oz. bottles.

*T.M. Reg. U.S. Pat. Off.

Obstetrics

Vitamins and Nausea

Synthetic vitamins K and C together may relieve the nausea and vomiting of pregnancy although either drug alone is not often effective. Of 70 patients given 25 mg. of ascorbic acid and 5 mg. of menadione bisulfite orally daily by Dr. Richard L. Merkel of Topeka, 64 had complete remissions of symptoms within three days, 3 stopped vomiting but were nauseated, and 3 were not benefited. Treatment, averaging thirty days, was continued until symptoms subsided when medication was withheld.

Am. J. Obst. & Gynec. 64:416-418, 1952.

Neurology

Curare Antagonist

Rapid decurarization after electroshock treatment is possible with the phenolic quaternary ammonium salt, Tensilon, m-hydroxyphenylethyl dimethylammonium bromide. Curare is useful as a relaxant in electroshock therapy because the resultant inhibition of neuromuscular conduction permits convulsions to occur without traumatic damage to the patient. The normal electromyographic recovery period after curare administration is in excess of thirty minutes. Tensilon produces a substantial return of muscle action potential less than ninety seconds after entering the general circulation. At the Mayo Clinic, Rochester, Minn., Dr. Albert Faulconer, Jr., and associates have found the following procedure safe and useful for patients requiring electroshock therapy who are free from myasthenia gravis: Premedication with 1/150 gr. of atropine sulfate is given. Possible sensitivity to the drugs to be used is then assayed by small test doses. If no untoward reactions occur in the trial doses, for each 25 lb. of body weight, 25 mg. of Sodium Pentothal, 3 mg. of d-tubocurarine chloride pentahydrate, and 2.5 mg. of Tensilon is prepared. Smallest and largest doses for adults correspond to body weights of 100 and 200 lb. regardless of actual weight. Pentothal is administered intravenously as rapidly as feasible. The needle is left in place and the Pentothal syringe is replaced by one containing the calculated dose of curare. This solution is injected over a period of thirty seconds. Four and one-half minutes later, a blood-pressure cuff is inflated on the patient's arm and the Tensilon injected. Exactly five minutes after the curare, electroshock is produced. If a satisfactory convulsion ensues, the pressure cuff is deflated and Tensilon enters the general circulation to counteract the curare. If subsequent shocks are necessary to produce convulsion, the cuff is kept inflated until a satisfactory result is observed. Decurarization is evident shortly after the release of Tensilon. Side effects of Tensilon are slight. Doses in excess of 20 mg. may produce some salivation and diaphoresis. The respiratory embarrassment of severe curare depression in surgical anesthesia may also be counteracted with 10 to 20 mg. of Tensilon.

Neurology 2:226-232, 1952.

When she slows down the "hoe down"

SHE'S the "weak link" in every circle of friends, a familiar example of a familiar complaint: hypochromic microcytic anemia And it's a good bet that other nutritional deficiencies are contributing to her general debility.

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Plus these nutritional constituents:

Thiamine Mononitrate (6 times MDR*)	6 mg.
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Ascorbic Acid (5 times MDR*)	150 mg.
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Pantothenic Acid	6 mg.
➔ Vitamin B_{12}	30 mcg.
Folic Acid	3.6 mg.
Stomach-Liver Digest	1.5 Gm.

*MDR—Minimum Daily Requirement
†RDA—Recommended Daily Dietary Allowance

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Iberol® tablets

(Iron, B_{12}, Folic Acid, Stomach-Liver Digest, with Other Vitamins, Abbott)

Oncology

Ascorbic Acid and Radiation

Temporary but almost complete withdrawal of vitamin C heightens the radiosensitivity of malignant tumors in rats. If ascorbic acid content of plasma falls from a normal level of 0.4 mg. per 100 cc. to 0.025 mg., the destructive dose of radiation is reduced from 8,000 and 10,000 r to 3,000 and 5,000 r, report Dr. Boris Sokoloff and associates of Florida Southern College, Lakeland. Carcinoma was completely eradicated by contact radiation in 60 vitamin-deficient rats, and all except 1 of these animals survived.

Federation Proc. 11:427-428, 1952.

Medicine

Chemical Sympathectomy

Adrenergic blockade may be established and maintained by oral medication with N-phenoxyisopropyl-N-benzyl-β-chloroethylamine hydrochloride. This drug, also known as dibenzyline, has been found to be more potent and less toxic than its parent compound, Dibenamine. The chemical sympathectomy is reversible and controllable on a day-to-day basis and produces recumbent and postural effects comparable to surgical sympathectomy. Adrenergic blockade was evidenced by pupillary constriction, postural tachycardia, or hypotension and by lack of response to intravenous neosynephrine, breath-holding, Valsalva maneuvers, and cold pressor tests. This blockade was established in all 11 patients studied by Dr. Marvin Moser and associates of Mount Sinai Hospital, New York City. A daily regimen of 1 to 4 mg. dibenzyline per kilogram of body weight given in divided amounts with meals is effective in establishing and maintaining the blockade. Diastolic blood pressure in the upright position was lowered by 15 mm. Hg in 9 of the 11 patients and systolic pressure by 20 mm. Hg. Nasal stuffiness was the most annoying complication with dibenzyline but does not prevent use of the drug.

Arch. Int. Med. 89:708-723, 1952.

Rheumatic Diseases

Hemagglutination Test

In patients with rheumatoid arthritis, agglutination of sensitized sheep cells is generally extraordinarily strong. All agglutinins against unsensitized sheep cells must be removed from blood serum by absorption before applying the test. No titer higher than 1:32 has been observed in healthy persons. In arthritis, positive reactions are reported in 89.5% in a dilution of 1 : 64 to 1 : 16,384. Drs. Nanna Svartz and Karl Schlossmann of the Karolinska Sjukhuset and the King Gustaf V Research Institute, Stockholm, generally found negative reactions in cases of ankylosing spondylarthritis or Reiter's disease. The occasional positive result in so-called muscular rheumatism without joint symptoms suggests the probability of a true rheumatoid myositis. ACTH and cortisone do not affect the agglutination.

Acta med. Scandinav. 142:420-432, 1952.

Hematology

Platelet Transfusion

Bleeding tendencies may be curbed for one to three days by transfused platelet concentrates prepared from 4 or 5 pt. of blood. Patients with thrombocytopenia, aplastic anemia, acute leukemia, and thrombocytopenic purpura have been treated successfully by Drs. Allen H. Minor and Lee Burnett of Lenox Hill Hospital, New York City. Siliconed equipment is used. Pint volumes of blood of any type are collected by gravity in ACD flasks, transferred by suction within three hours to bottles that contain 60 cc. of 6% dextran, and sedimented for two hours. Suspensions are aspirated into bottles holding 20 cc. of 2% Triton WR-1339 and centrifuged at 2,000 rpm for thirty minutes. All but about 10 cc. of the supernatant layers are discarded, and 40 cc. of saline is added. Residual red and white cells are removed by low-speed centrifugation. The recovered platelets are morphologically intact and active; 0.1 cc. of concentrate added to 3 cc. of thrombocytopenic blood induces normal prothrombin consumption and clot retraction.

Federation Proc. 11:422-423, 1952.

Respiratory Diseases

Pulmonary Edema Therapy

Peripheral vasodilatation in the treatment of acute pulmonary edema is more promptly and safely achieved with a ganglionic blocking agent, Arfonad, than with procaine spinal anesthesia. A thiophanium derivative originally designated by the code name Ro 2-2222, the drug is given intravenously in doses of 0.1 to 0.2 mg. per kilogram of body weight or by continuous drip in the amount of 1 or 2 mg. per cubic centimeter in 5% dextrose. Arfonad reduces arterial blood pressure at much lower dosage levels than tetraethylammonium chloride does, brings pulmonary venous presure to normal, and increases cardiac output. Dr. Stanley J. Sarnoff and associates of Harvard University and Peter Bent Brigham Hospital, Boston, found the rate and degree of sympathetic response reasonably well controlled and gastrointestinal distress lessened by frequent graded administration. The pressor effects of ephedrine may be desirable during the procedure. Chemically, the compound is d-3-4-(1′,3′-dibenzyl-2′-ketoimidazolido)-1, 2-trimethylene thiophanium d-camphor sulfonate.

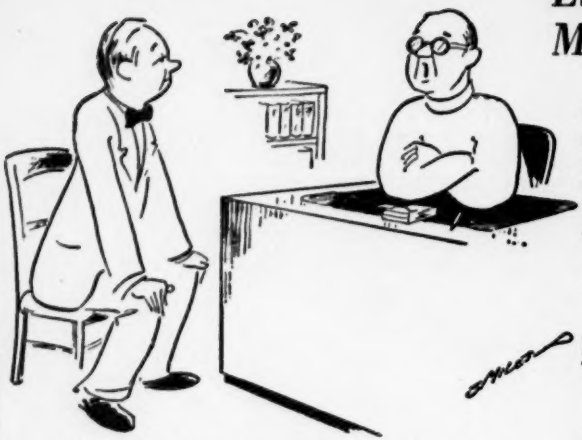
Circulation 6:63-73, 1952.

Oncology

Carcinogenic Hydrocarbons

Benzene extracts of industrial carbon blacks are carcinogenic to a certain degree. The tumor-inducing properties are lost, however, in direct proportion to the absorptive power of the various carbon blacks, find Dr. E. von Haam and associates of Ohio State University, Columbus, after investigation of 3,4-Benzepyrene and 2 other hydrocarbons, using 8 different carbon blacks as adsorbents. Samples were fully saturated, and adsorbed materials were subjected to biologic trial.

Federation Proc. 11:432, 1952.



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All patients should have a complete urinalysis before receiving corticotropin (ACTH)or Cortisone. Particular attention should be paid to the presence of glucose or acetone in the urine.

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The proper examination of the urine for sugar during treatment with ACTH or Cortisone may reveal a number of prediabetics.

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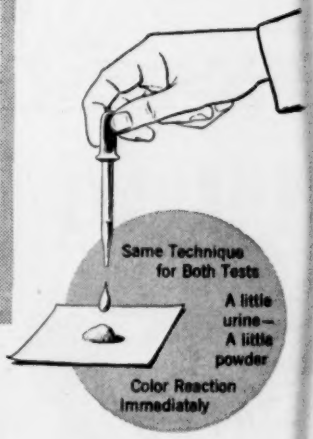

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For the rapid detection of acetone in urine.

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Nellie Nifty, R.N.

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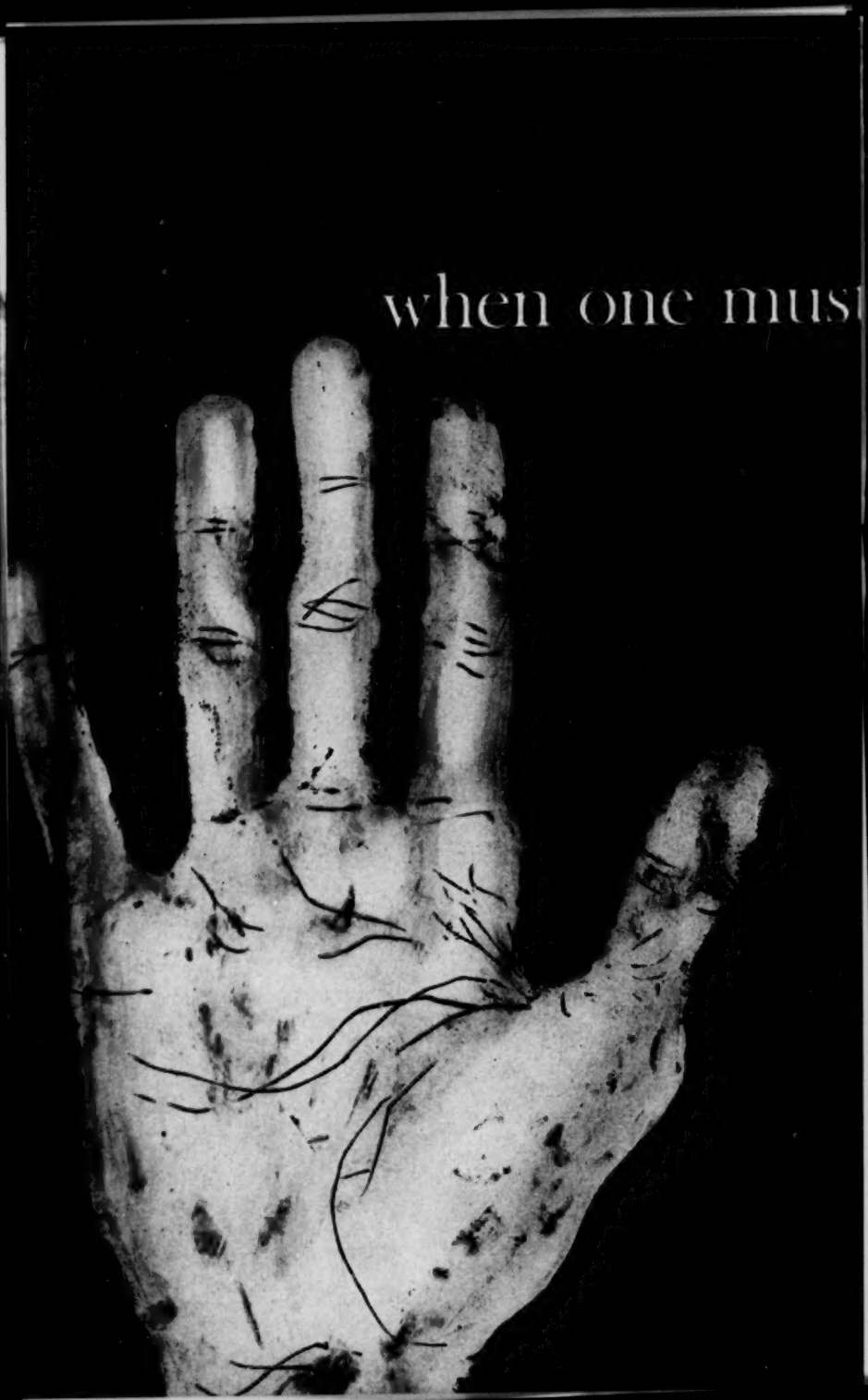
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